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Issue 194

LEARN THE ART OF
LOW LIGHT
LANDSCAPES

- Shoot by moonlight
- Capture constellations
- Adapt to different locations

CANON EOS
6D MARK II
How does this full-frame
model perform?

MASTER
PORTRAITS
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SHOOT FOOD
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+

THE PROS & CONS OF
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**WORK WITH USER
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CREATE CONSISTENT
COLOUR ONLINE

Maximise YOUR
IMAGE QUALITY
Pro steps to enhance your imagery

Future

ISSUE 194

© Stephen Banks

"Low-light landscapes are a stunning subject matter for any lover of scenic photography"

Welcome to the latest issue of Digital Photographer magazine. Low-light landscapes, captured after the sun has disappeared and the night sky is on display, are a stunning subject matter for any lover of scenic photography to explore. The ability to capture atmospheric images in these conditions is an art form in itself, and requires a whole host of different techniques. In this issue, Stephen Banks has put together a guide to creating stunning images, using his impressive set of skills and experiences. Turn to p30 to begin reading it. There's also a guide to capturing portraits on the run, from pro photographer Holly Wren. She explains how to get great pictures of people when time is limited, working in both natural light and with flash. Turn to p42 to read it. Elsewhere this issue, we've got a guide to maximising your image quality, from shooting to editing. Head over to p54 to check it out.

As always, we've got plenty of industry news, product reviews and tutorials to help you expand your knowledge and take your photography to the next level. We'd really love to see your own images, so don't forget to upload them to dphotographer.co.uk.

Until next time, enjoy your photography!

Matt Bennett, Editor
matthew.bennett@futurenet.com

© Holly Wren (p54)

Our contributors

PETER FENECH
This issue, our Staff Writer Peter has put together an in-depth guide packed with top tips and advice for really making the most of your kit to maximise your image quality. Have a read over on page 42. Over on page 100, Peter has also put the Canon EOS 800D to the test to find out its strengths and weaknesses.
Website:
dphotographer.co.uk

HOLLY WREN
Portrait photographer Holly Wren is an expert when it comes to taking captivating people pictures, and this issue she has given us an in-depth guide on how to capture your best images when under a strict time schedule. Read her advice in our Portraits on the Run feature over on page 54 of the magazine.
Website:
www.hollywren.com

STEPHEN BANKS
Stephen is an astrophotographer who especially loves to capture the beautiful night skies of Dorset. Over on page 30, he has put together a jam-packed feature filled with some amazing images from his portfolio, featuring his top tips for successfully capturing landscapes in challenging low-light conditions.
Website:
dorsetscouser.com

DOUBLE EXPOSURE PHOTOGRAPHIC
The team at Double Exposure Photographic have taken their hand to food photography this issue, and over on page 68 of the magazine you can find out their step-by-step process to successfully capturing and editing a delicious image of luxury chocolate in the studio with flash.
Website:
www.dephotographic.com

ANGELA NICHOLSON
Freelance photographer, journalist and regular contributor to the mag Angela Nicholson has taken the Canon EOS 6D Mark II out for a test run this issue, to find out whether or not it's a worthy upgrade to the 6D. Read her verdict on the camera and its upgraded features over on page 96.
Website:
angelanicholson.com

MATTHEW RICHARDS
Matthew Richards has given us his expert verdict on two speedy camera models this issue, the Canon 1D X II and the Sony a99 II. Both can help you satisfy your need for speed, but which one comes out on top when it comes to successfully shooting fast-paced action? Find out on page 88.
Website:
www.matthewrichards.uk

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The Gallery

Some of the best images from our website

Ceri Jones

DP Gallery address:
CeriDJones
Image title:
Common European Toad

What camera, lens and settings did you use to capture this stunning shot?
Canon EOS 6D, Sigma Macro lens 105mm using ISO 320 at f16 and 1/160 sec. Flash lit.

What do you like most about the image?
I found the symmetry of the image most pleasing and the clarity of the reflection, which provided almost the same detail as the actual toad image.

Did you do much post-processing?
A slight increase in saturation and a tweak in the curves to provide greater contrast.

How did you decide on the composition for this image?
I wanted to maximise the reflection of the toad and therefore a landscape orientation provided the best symmetry of the toad and its reflection. A clean background was preferred to ensure no distractions from the main subject matter. Side lighting provided good detail on the skin.

Upload your images to our online gallery now for your chance to be printed in the magazine. Go to **www.dphotographer.co.uk**

Achintha Dahanayake

DP Gallery address:
achinthad
Image title:
Promise of a new Dawn

2x © Achintha Dahanayake

"This photo was taken in Gintota, Sri Lanka. As soon as I saw this scene I knew what composition I wanted. When I visited to take the photo, I found this extra foreground log, which gave the shot a nice focal point. I'm really happy with the subtle colours in the sky and movement of the tides."

Robert Smith

DP Gallery address:
milkwoodphotography
Image title:
Tiumpan Head Lighthouse

2x © Robert Smith

"Off a peninsula on the Isle of Lewis lies this lighthouse, now a cattery. It was awkward to get a decent perspective that reflected how remote this place was. The solution was to scramble down to a rocky outcrop. Two exposures at 69 sec and 1/15 sec were blended to make this final image."

Kara Knowler-Davies

DP Gallery address:
KaraAmyLeigh
Image title:
July

"This image is a self-portrait, taken using artificial lighting, with the camera mounted on a tripod and set off using a remote shutter."

Yuriy Marutyak

DP Gallery address:
Marandmar
Image title:
Trwyn Du

"I took this picture during a short break in Wales. Every time I plan a trip I research for interesting places to photograph. Piers and lighthouses are always on my radar as they are perfect subjects for long exposures. The tide was low so I could get closer to it and reveal rocks in the foreground."

2x © Yuriy Marutyak

Magdalena Szurek

DP Gallery address:
valori
Image title:
London Street

"This photo was taken in London during a rainy day in Westminster. I was attempting to show flagship monuments in a novel way, seen via the puddles obligingly provided so that the oft-photographed city takes on a new dimension."

2x © Magdalena Szurek

THE BEST OF **PLAY WITH PERSPECTIVE**

The winners of our latest contest with Photocrowd and Vanguard have been revealed

In our most recent contest in association with Photocrowd, we challenged you to submit your best images from an alternative perspective, and after sifting through over 2,800 stunning images the winners have been selected. Both Crowd Voted and Expert's Winner will get a Vanguard VEO DISCOVER 41 bag (£69.99) and VEO AM-204 monopod (£34.99). Congratulations to all of the winners!

1ST PLACE WINNER
Apon, drug rehabilitation center, Dakha
Photographer: Marco Boria
Our comment: We really love the creative perspective that the photographer has skilfully shot this image with. The ball has been frozen in mid-air and the tension of the scene has been captured beautifully. This is a very intelligent twist on a street photography capture and gives a unique view of what could have been quite an ordinary scene. What we really want to know is if the ball actually went in?!

2ND PLACE
Ocean point

Photographer:
David Queenan
Our comment:
The extremely low angle that this shot was taken at has created a really interesting perspective. The lamp post looks almost bigger than the tall building and really dominates the scene. The beautifully blurred sky helps to tie the image together.

3RD PLACE
A different perspective of Blackfriars Bridge & St Pauls

Photographer: Helen Trust
Our comment: The swirling lines in this stunning black and white image lead the viewer's eye around the image and to the central subject. St Paul's is such a vastly photographed and iconic structure and this image taken from an alternative perspective is very striking.

1ST PLACE CROWD VOTED   Pillar And Ice   Photographer: Chad Briesemeister

STORY BEHIND THE STILL

Photographer: Anne Geier
Website: www.annegeier.com
Location: Grundlsee, Austria
Type of commission: Personal
Shot details: Nikon D750 body with 35mm f1.8;
1/1,000sec at f1.8, ISO 400

About the shot: As photographers, we love making images of our furry companions, just as much as the public love viewing our shots. However, with a popular subject comes the issue of repetition and uncreative compositions. Photographers like Anne Geier demonstrate how innovative use of the environment can generate next-level pet portraits.

"The lake Grundlsee shows a very special magic – something mystical. That is why I wanted to underline this mood with a dog that shows the same magic. Bruce, the dog model, was the perfect choice as he has a magnetic personality and his colour fitted almost perfectly in this landscape," explains Anne.

By incorporating the dog in a wider-framed shot of the beautiful landscape, Anne has produced an image that has more than one string to its bow – the mood of the environment matches the personality of the dog, so there is more of a story. Some careful forethought is required for this to work, however, as Anne describes.

"I knew if I wanted to exactly capture this special mood in a photo I would have to take care with the weather conditions. [For this type of shot] the weather has to be fine, there should be no wind and it's great if there is some fog, but you can't influence the weather conditions and therefore you have to be flexible. I had a main idea and decided to implement this and wait to see what would emerge from the situation."

To successfully shoot her canine models in the field, Anne has to overcome a key challenge: timing. "The main challenge [for this image] was to be in the right place at the right time – only in that case would the reflection of the mountains show up in the lake. Then there was the short time frame to make the image; there was only a brief moment when the sun came out above the mountains and was in the perfect position for me to capture the sun's rays, before it climbed too high."

Right
Sunrise
Anne used subtle post-processing to enhance the mood – she added some cool tones for the mysterious feel, then introduced a vignette to focus attention on the dog

THE A7R III
- SONY'S NEW MIRRORLESS WONDER

Christmas comes early for Sony users with new E-Mount workhorse

Sony recently announced the long-awaited successor to its a7R II in the shape of the 42.4MP a7R III. Armed with a high-resolution Exmor R CMOS sensor, the new model looks set to bridge the gap between common studio and action-based camera specifications, as Sony fuse large file sizes with a speedy 10fps continuous shooting mode. This is made possible through the use of a new-generation BIONZ X processor, which Sony claims increases in-camera processing speeds by a factor of 1.8x over the Mark II predecessor. The new engine has also provided the power necessary to support an increase in sensitivity range, which now extends from ISO 50 to ISO 102,400 at the expanded high setting when shooting still images. Furthermore, processor and sensor design combine to allow an impressive dynamic range of up to 15EV – perfect for landscape photographers hoping to capture detail and colour in both shadows and highlights, during high-contrast lighting conditions. The sensor itself utilises a gapless microlens design and features a special anti-reflective coating, to maximise light capture and keep image noise to a minimum. This is also aided by the inclusion of Sony's BSI (Back-Side Illuminated) technology. Another area which has seen significant upgrades is the a7R III's autofocus system – the 25 contrast detection AF points found in the a7R II have been replaced by a new 425-point array, in addition to the staple 399 phase-detection points. The system comes with improved low-light performance, the focusing lag halved from the previous incarnation and tracking accuracy doubled. Another standout feature is the 4K video function, which comes complete with HLG (Hybrid Log Gamma) compatibility, for HDR (High Dynamic Range) playback on select televisions. When combined with Full HD shooting at 120fps, the new Sony presents itself as an attractive proposition for filmmakers, looking to travel light. As is expected from a camera in this category, the optical low-pass filter is absent for optimised detail rendition and a five-axis image stabilisation system is built-in. The brand-new a7R III is due November 2017 priced £3,200 approximately.
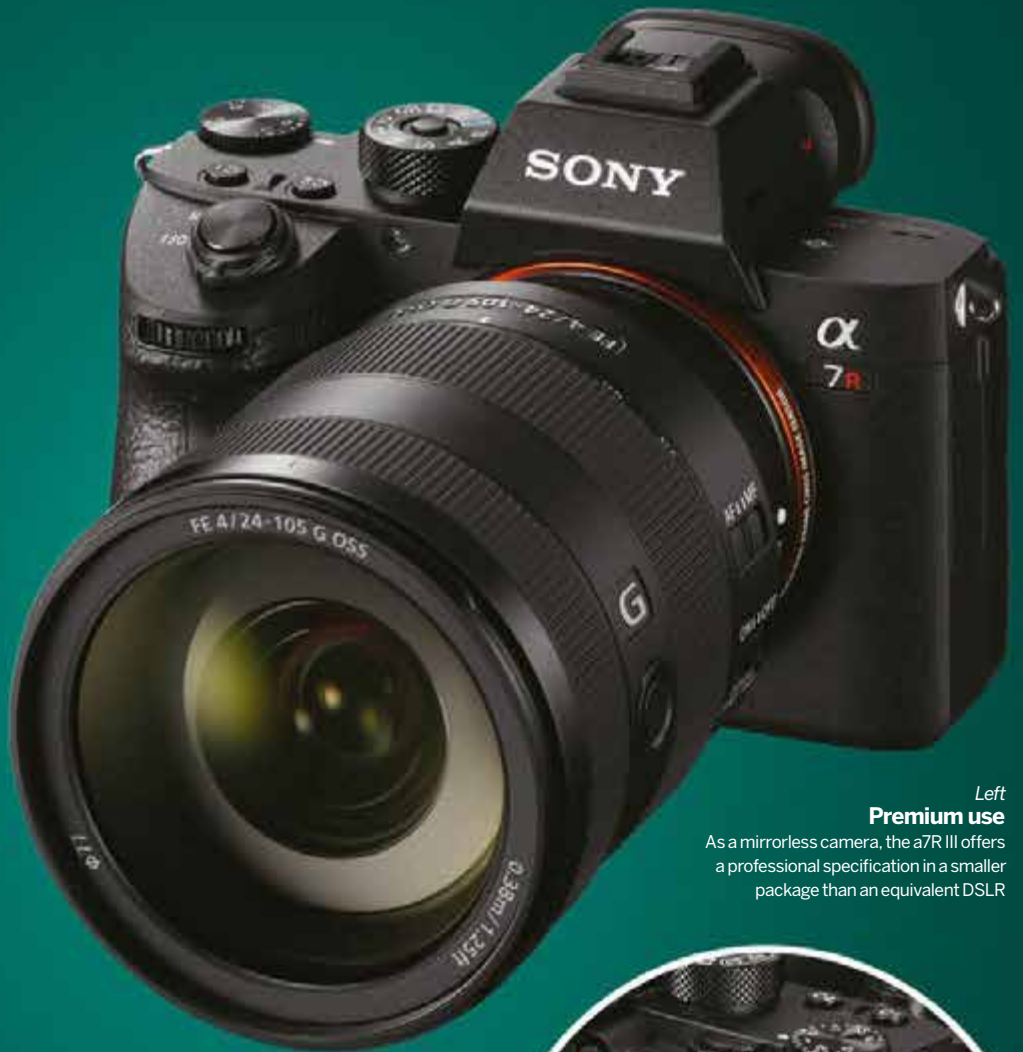
Left
Premium use
As a mirrorless camera, the a7R III offers a professional specification in a smaller package than an equivalent DSLR

Left
Familiar design
Outwardly the a7R III is similar to previous models, so will be familiar to Sony users

Above
Shoot like a pro
The camera features dual memory card slots, allowing extensive uninterrupted shooting of large files

New Sony lenses

A duo of exciting professional-grade G-series optics are revealed to be waiting in the wings

In addition to announcing the new a7R III, Sony has also revealed details of two new E-mount lenses, bolstering the Japanese manufacturer's professional photography product portfolio. The full-frame compatible FE 24-105mm F4 G OSS lens is pitched as a lightweight standard zoom, which covers the popular wide to mid-range focal lengths favoured by landscape and wedding photographers. Notable aspects are the constant f4 aperture, which maintains the lens's light-gathering capacity throughout the zoom range and optical image stabiliser, both of which make the lens useful for low-light work. Featuring aspherical and ED (Extra-Low Dispersion) glass, the optic weighs in at only 663 grams approximately, making it perfect for easy hand-held shooting.

Alongside the 24-105mm, which is due for release in November 2017 at £1,200 approximately, the development of the FE 400mm F2.8 GM OSS super-telephoto lens has also been highlighted. Due for launch in Summer 2018, this lens will offer the flexibility of a long focal length with the creative possibilities of a very fast aperture. It will allow rapid shutter speeds in low light and the option to diffuse backgrounds with depth of field – the ideal combination for sports and wildlife photographers.

Below
Top of the range
The new 24 105mm lens is claimed to be the lightest in its class, despite the advanced optics

Nik's new lease of life

The popular Nik Collection of plug-ins has a future once more after being acquired by DxO. Earlier this year, Google announced that it would no longer develop the now-free software suite, placing doubt on the longevity of applications such as Colour, Silver and HDR Efex Pro and Viveza, which have become a vital part of many photographers' workflows. It is yet to be revealed if free availability will continue, or whether a new fee structure will be introduced.

Final calls for BPOTY

Don't miss your opportunity to enter the Bird Photographer of the Year competition 2018

Below
In it to win it
BPOTY offers multiple competition categories to which photographers can submit images, providing opportunities for all photographers

If you have an impressive portfolio of wildlife images, you could be in with a chance of winning a share of £15,000 worth of prizes. After a successful competition earlier in 2017, the 2018 contest is now open for entries, offering seven categories to choose from and a global showcase for your images. The overall winner will be awarded with a £5,000 prize and entrants that provide commendable images will be able to see their work in the accompanying annual BPOTY book, which has garnered universal acclaim. Beyond the competitive aspect, BPOTY plays an important role for conservation, having raised £5,500 through entry fees for the British Trust for Ornithology so far. The money from your entry will be directly put towards the running of 'boot camps' for young people, with the aim of encouraging the new generation to get involved with conservation activities, in association with The Cameron Bespolka Trust – a sponsor of Young Bird Photographer of the Year. Visit www.birdpoty.co.uk to submit your entry before 30 November 2017.

KEEP INFORMED: For more news and updates, be sure to pay a visit to our website, **www.dphotographer.co.uk**, and if you've got a story for us, you can email us at **team@dphotographer.co.uk**

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Written with LIGHT

From magical Paris to the glitz of Los Angeles, Serge Ramelli discusses his inspirational photographic journey and ambitious future plans

Serge Ramelli is a photographer with multiple strings to his creative bow. While his photographic portfolio alone demonstrates his skill as a stills photographer, his artistic repertoire extends far beyond this visual medium. Before he'd ever picked up a camera, Serge channelled his ambition to become an actor into developing his talent as a film-maker and producer. The quality and popularity of his signature cityscapes, landscapes and architecture images seem even more remarkable when you consider that he is entirely self-taught, and only started experimenting with digital photography in around the mid-2000s.

Venice colour
Warm artificial light contrasts with cool natural colours in this iconic view of Venice
All images © Serge Ramelli

"Before 2005 I had almost never taken a photo in my life," explains Serge. "At that time I was really focused on getting into acting and producing short movies. The difficulty with that was building a crew to pull everything together and enable me to tell a story – it was really painful."

It was then that Serge discovered another outlet for his creativity, when a close friend demonstrated the power of Photoshop on one of Serge's informal photos.

"I had taken a photo of another of our friends while we were all on vacation and he made it into a magazine cover using Photoshop. I realised that although I really wanted to be an actor, I just wanted to do something artistic, and with a camera plus Photoshop you could do anything!"

Once he was aware of the creative potential of photography, Serge yearned to learn all he could about the topic. His favourite genres have evolved over the years, but cityscapes have played a big part in his photographic development.

"I was working for my brother in some of the nicest areas of Paris, so I was finishing right around sunset and taking photos [of all the major landmarks]. I did that for years and that really got me started," he explains.

From that point Serge started travelling and landscape photography became a logical next step. Today his focus has shifted to combine two major areas of photography – portraiture and landscape – in a commercial style. These photos now make up a significant percentage of Serge Ramelli's portfolio.

"I like to shoot somebody doing something in an environment, such as another photographer taking an image in a beautiful place. I'll shoot the background and then light the subject with flash or mix them together – I've been doing that more and more. It's a portrait, but it's also a landscape – it's kind of hard to do, but I enjoy the challenge."

Today Serge is a pro photographer, retoucher and educator. His YouTube channel (youtube.com/photoserge) has over 455,000 subscribers and he produces a multitude of online training products.

As a photographer of the modern age, digital technology has had an extensive role in Serge's growth. His first camera was a Canon EOS 350D, which served as a great tool for learning. "It was quite noisy, had a low resolution and a limited dynamic range, but it was the camera of the day," he reminisces. "From there I moved to the Canon EOS 5D, then the 5D Mark II and I was going to continue to the Mark III, but switched to Sony, using the Alpha 7R, 7S and 7R II, due to their portability."

Speaking of his professional imagery, Serge describes how the publication of his

"I realised that I just wanted to do something artistic, and with a camera plus Photoshop you could do anything!"

Opposite top
Notre Dame long exposure
Beautiful sunset colours reflect in the waters of the Seine River

Opposite bottom
Lapin Agile
"The Lapin Agile, a beautiful little restaurant in Montmartre. This shot keeps coming back as another of my favourites!"

Above
Notre Dame
This image demonstrates perfectly how varying light can create an entirely different mood

Serge's favourite photo

It comes as no surprise that Serge's favourite image was made in Paris. The shot of some steps in Montmartre, the Artists' Quarter of the city, has a classic Parisian feel, one that Serge has since been unable to recreate exactly. "There was a special light that night, there was no one there and I think there was something special about how I shot that photo that I've been unable to reproduce. I've tried about ten times so far – it sounds crazy but it's true!"

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work in book and gallery format has been the proudest achievement of his career.

"It happened in the same week – I signed to have my work shown in over 85 galleries, and at the same time signed a deal with my German publisher to publish books on Paris and New York. Now I was able to exchange my work with a wider audience – that would have to be my proudest moment so far. I'm actually bringing out two new books, one on Venice and one on Los Angeles, this time in colour. Last time the publisher preferred black and white, but I am more of a colour artist, so I am very happy to be working with colour again."

When asked about what he believes constitutes a successful photograph, Serge's cinematic background shines through. "Photography means to write with light, so obviously you have to have great light, but for me it's good storytelling that's important. It's got to say something. If you have a shot of the Pont Neuf at sunset, with a nice lady as a foreground element, you have a clear fore, middle and background, you're telling a story. In your composition, you have make sure that everything there is helping to convey one clear message. When

"It doesn't matter what the subject of the photo is, whether it's macro, landscape, travel or fashion, you've got to have a clear story"

composing my images I always ask myself what I can include and what I can leave out to help me communicate my message. It doesn't matter what the subject of the photo is, whether it's macro, landscape, travel or fashion, you've got to have a clear story."

Looking to the future, Serge has far from abandoned his dream of producing movies (see 'The Hollywouldn'ts' below), but he has some expert advice for photographers hoping to develop their own style.

"Find photographers you like, watch their tutorials, find behind-the-scenes videos and in the process of trying to imitate their style initially, you'll naturally find your own. That's what worked for me!"

You can view Serge's work by visiting his website at sergeramelliphotos.com and access his popular training courses by visiting photoserge.com. **DP**

The Hollywouldn'ts

Having spent time as a movie producer in Paris, Serge moved to Los Angeles to form a film production company. After a friend in the industry saw Serge in his YouTube videos, he suggested an idea for a short movie in which Serge could perform. "He saw me doing my enthusiastic French guy and had the idea to make a movie called

The Hollywouldn'ts laughs Serge. "Canon helped us in a big way, by giving us all the gear – ours was the first movie in the world to be shot on the Canon EOS C300 Mark II. We're currently in talks with distributors for TV sales. We just wanted to make a movie and I'm very proud of its reception." The film can be viewed now on iTunes.
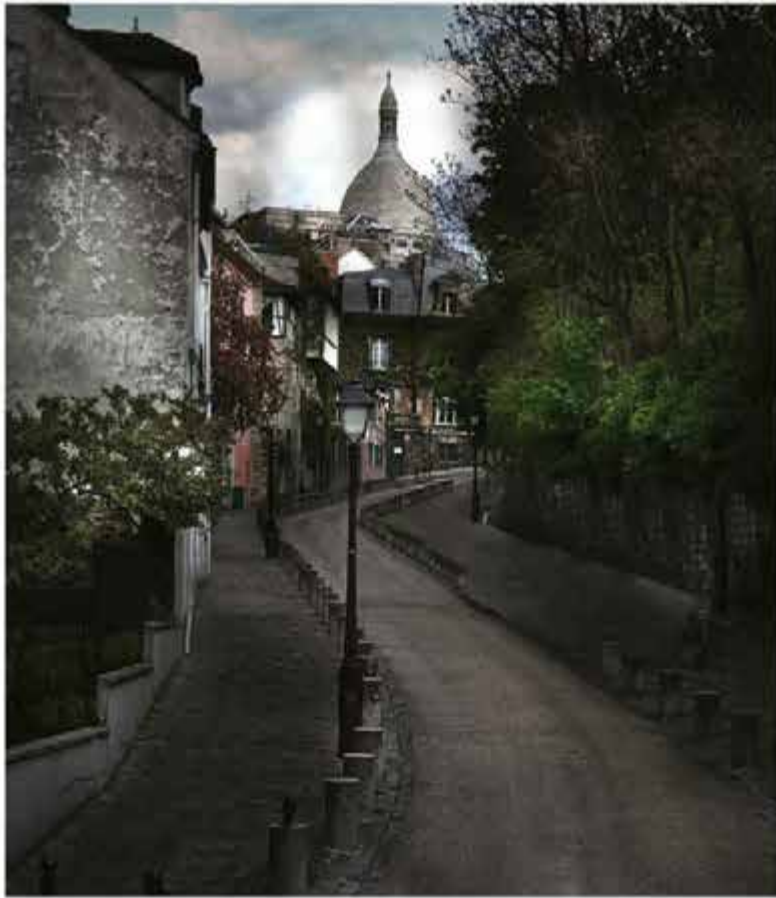
Opposite
Roof of Paris
"Paris for me is one of, if not the nicest cities in the world – it's probably where you get the most photographic opportunities per square metre! It's so aesthetic"

Above
Montmartre
A deserted quaint street in the Montmartre area of Paris

Below
Big Sur, USA
The deep colours and great light give this image an airy 'paradise' feel

LEARN THE ART OF
LOW LIGHT LANDSCAPES

Astrophotographer Stephen Banks explores the techniques you need to master to successfully capture stunning landscapes after dark

Low light presents challenges, but it also enables incredibly atmospheric images to be created. If you head out to a scenic landscape after dark, or perhaps even into a town or city, you can capture dramatic images that are simply stunning. There's a real art form involved in this, from exposure through to composition, low light presents a whole host of challenges, working out in the field in the dead of night, possibly in a remote location, trying to capture a potentially award-winning shot.

Over the next few pages, you'll discover the skills you need to do exactly this, as Stephen Banks explores all aspects of this craft. From the field through to the editing stage, you'll unlock everything you need to know.

USE THE MOON

It's the brightest object in the night sky, so learn how to use it to your benefit

"Using apps you can find out exactly how bright the moon will be"

The moon is extremely useful for photographers who want to light up a landscape at night. The sun's rays reflect off our familiar friend, casting different levels of light depending on the phase of the moon. These phases are predictable, and using apps you can find out exactly how bright the moon will be, as well as where and when it will be rising and setting.

Just as you can plan the sun rising and setting in certain places during landscape photography, the moon predictably rises in the east and sets in the west. During a full moon, the amount of light cast out onto the landscape means you can use relatively short exposure times to capture enough light in your images. A thin crescent moon will need longer exposure times, but can be just as effective if you're willing to wait for enough light to be captured by your camera.

If you know exactly where and when the moon will rise, you can plan spectacular juxtapositions of the moon appearing above familiar landmarks, particularly if you're using a telephoto lens. As the moon starts to rise, it has to pass through a lot more humidity in the atmosphere, so appears dimmer and often red. As it rises, it gets brighter and clearer, so this is the best time to photograph detail on the moon.

A full moon, high in the sky, will act in the same way as the sun, lighting up the landscape. Any clouds passing in front of a bright moon can create a dramatic scene, with equal interest in the sky as the foreground elements.

MAPPING THE NIGHT SKY

Do your research and plan ahead to photograph the Milky Way and different constellations at certain times of the year

A good knowledge of the night sky can go a long way in terms of photography. Knowing where and when certain constellations appear in the sky enables you to plan your night sky imagery more accurately. Knowing when the galactic centre of the Milky Way rises will let you capture the best possible detail in this prominent celestial feature. Using apps like Star Walk and PhotoPills enables you to identify constellations easily, and predict the best time to photograph the Milky Way.

Right
Sagittarius Rising
The constellation Sagittarius only rises above the horizon in the south of the UK in the height of summer. In this shot, the stars that make up the constellation were picked out by adding a stop of exposure using Lightroom's local adjustment brush

PLAN YOUR SHOOT

Predicting where and when the moon will rise will produce fantastic results

1 Day visit Scope out your location to identify potential hazards. While you are visiting, you can plan the precise timings of your night-time shoot if you want a shot of the moon rising above a specific landmark.

2 Plan your shoot Use an app like PhotoPills to predict where and when the moon will rise. Here we want to capture the Milky Way with a motorised tracker before the moon rises, then a longer exposure as it rises.

3 Set up Pack a sturdy tripod, particularly if working on uneven ground or in breezy conditions. Wear warm clothing, as you might be outside for a long time and the temperature drops rapidly at night.

4 Gauge the light Start with 30-second exposures and high ISO settings. This will enable you to work quickly in order to achieve a level of light you would be happy with in the final exposure.

CLOUDS
Light clouds passing over the scene add drama

BRIGHT MOON
Careful planning means the position and time of the rising moon was precisely gauged

STREET LIGHTING
Additional lighting on the harbour creates a more balanced scene

LOW TIDE
A particularly low tide meant the harbour was accessible on foot

Right
Moonlit Durdle Door
This image was a combination of the foreground exposure, with the moon rising on the horizon, and a sequence of photographs of the Milky Way taken moments beforehand with a equatorial mount

5 Work out final exposure
If you are happy with the light levels in that shot, work backwards, halving the ISO and doubling the exposure time. This image was a four-minute exposure at ISO 400.

6 Nail the exposure As the moon rises, it will get brighter, so be sure to gauge the levels of light accurately. It is easier to shoot in RAW, underexpose a shot, then bring out the details in the shadows afterwards.

All images © Stephen Banks

MOON RISING
A full moon rising between the buildings adds to the scene

COLOURFUL SHOP LIGHTS
Lighting in shops on the Albert Dock in Liverpool presents a bright and colourful foreground

USE URBAN LOCATIONS

Towns and cities transform at night, so you can capture familiar scenes in a new light

Many towns and cities have street lighting that remain switched on all night. Although these aren't ideal environments to photograph at night, they do present interesting opportunities to shoot familiar landmarks in a different light. And they have the obvious advantage of being closer to the majority of people in the UK than the dark skies in the countryside; night photography in towns and cities is the ideal opportunity to start taking long-exposure photographs and learn more about the capabilities of your camera.

Temperatures in towns and cities are usually warmer than the surrounding countryside, but it is still worth wrapping up warm with multiple layers, in case you're out for a long time or are caught out by a passing shower. Of course there will be a lot more light surrounding you, so it's easier to find your way around, but be aware of passing motorists and, in particularly busy areas at certain times of the week, you're bound to be propositioned by drunken revellers asking you to take their photograph!

Most modern compact cameras, and some smartphones, can produce surprisingly good photographs in low-light environments in towns and cities. By default, these devices will automatically activate a built-in flash, which will have no effect other than to overexpose anything two metres or less in front of you. Turn off the automatic flash mode and see what you can capture handheld. Lean against a wall to steady yourself if possible, or crouch down, resting your elbows on your legs, to steady your hands. If you're finding these images too blurry, then consider investing in a tripod.

Towns and cities will have some elements of lighting turned on all night, so it is worth using this to your advantage to light a scene. Avoid shooting directly into bright points of light, if possible. Also remember that if you stop down your aperture to f8 or f11, these bright points of light become starbursts, which can be an interesting effect.

Opposite
West Bay stars
Despite bright street lighting, stars are still visible in most towns and cities

LONG EXPOSURE
Over the course of a few seconds, the wheel in the background moves

REFLECTIONS
Still waters of the harbour reflect the lights above, creating an almost perfect mirror image

URBAN NIGHT PHOTOGRAPHY
Here are a few tips to help you capture striking images at night in towns and cities

1 Set up Find a safe place to set up your equipment. This spot is well lit, so the photographer can see the buttons on the camera clearly, rather than fumbling around in the dark trying to change settings.

2 Switch camera to manual Manual mode will enable you to have more control over the exposure time and aperture settings; in low-light scenes, most cameras do a poor job of gauging the light levels.

3 Live View If your camera has Live View, switch this on, as it makes the scene much more easy to focus. Zoom in on a bright point of light, and adjust the focus manually so that the scene is as sharp as possible.

4 Take a test exposure Use a relatively short exposure time, fairly low ISO and stopped-down aperture to judge levels of light in the shot. This image was a 5s exposure, f8 at 400 ISO, and is too dark.

5 Refine your settings Increasing the exposure time from 5s to 30s means that much more light will hit the sensor on the camera, resulting in a brighter image. For exposures this long, you will definitely require a tripod.

6 Brighter image This shot is much brighter, with the boats in the foreground more visible. It is handy to shoot RAW images, because you can bring out more details in the darker areas of the image when editing.

Pier terrace at night
The 30s exposure helps accentuate the movement of the boats on the water, and using f8 the light on the left side becomes a starburst

USE LONG EXPOSURES

By using very long exposure times, you can achieve virtually grain-free images

Much like using a 10+ stop neutral density filter in the daytime, blocking out the majority of the light getting through to the camera's sensor, working at night means that you can utilise very long exposures. In turn, you can create star trails, smooth out the motion of the sea, or 'paint' elements into the scene using creative lighting techniques.

It's difficult to know exactly what settings to use straight away, but there are ways around this. By using 30s exposures at very high ISOs, you can quickly gauge light levels, then work your way backwards. A 30s exposure at 6400 ISO would equate to a one-minute exposure at 3200 ISO. Stepping backwards, doubling the exposure time and halving the sensitivity each time means that, if you have the time, you could get a similar image at 100 ISO with a 32-minute exposure.

For these longer exposures, you will most likely need to invest in a remote timer, which will fire a signal to open the shutter when the camera is in Bulb (B) mode. Without this remote timer, you are likely to be restricted to a maximum of 30 seconds of exposure time, but this varies from camera to camera. Some have a function where the mirror can be locked up until the shutter button is pressed again.

Many cameras will have a long exposure noise reduction (LENR) mode. As the exposure time builds up, the camera's digital sensor chip heats up and generates noise, or hot pixels. By turning on LENR, once the camera has exposed the shot, it will shut the mirror and exposure for an amount of time equal to the previous exposure, in order to build up a 'map' of the hot pixels. It then merges the two images together, averaging out the hot pixels.

There are two ways of creating star trails. You can commit yourself to one very long exposure, risking something going wrong during that time (the tripod falling over, someone walking through your shot shining a torch at the camera, and so forth), or capture a series of shorter exposures and combine them with editing afterwards.

> ## "You will most likely need to invest in a remote timer"

Above
Star trails
By combining multiple shorter exposures in Photoshop, stars 'trail' in a circular motion around Polaris

Opposite above
Smooth seas
By using a ten-minute exposure, the motion of the sea is completely smoothed out

Opposite Below
East Cliff star trails
A ten-minute exposure shows stars moving, owing to the rotation of the earth

CALCULATE LONG EXPOSURES

It's important to ensure that you know what image you're going to end up with after a very long exposure. Save time by working with shorter exposures, then calculate the correct long exposure time

1 Experiment with settings Use relatively short exposures (30s or less) and high ISOs (3200 or more) to gauge the light. If you feel that your image is too dark, increase the exposure time or the sensitivity, or make the aperture larger (a smaller f-number).

2 Take some test images Working with shorter exposures saves time, as you are establishing what levels of light your camera is capturing. Check back on the image review screen and adjust the settings until you are happy.

3 Work backwards Now reduce your sensitivity by a stop (say 6400 to 3200). At the same time, double the exposure time. Keep doing this until you get to a low ISO number (400 or less) and a long exposure time (four minutes or more).

4 Long exposure noise reduction Make sure that you turn on LENR. Once the shot is taken, the camera will take another shot with the mirror down, working out where the hot pixels will form and removing them from the final image.

REMOTE RELEASE

For exposures longer than 30s, it is highly likely that you will need a remote release

On the majority of cameras, the longest exposure time setting is 30 seconds. Switching to Bulb (B) mode will enable you to take longer exposures, but unless you have a very steady hand and finger on the shutter button, you will need something attached to the camera to trigger the shutter to open or close. Devices range from £10 to £300, and some can connect your camera to a smartphone for enhanced control.

Triggertrap
A Triggertrap or similar kit will connect your smartphone to your camera, enabling you to set very long exposure times, create time-lapses and control motion or sound triggering. These kits are specific to each camera

Right
Long exposure at Portland Bill
In this image, gauging the light levels was essential, because of the darkness of the night sky and the brightness of the light at the top of the lighthouse. Using shorter exposures first saves a lot of time

5 Wait for the image If you're confident in your settings, you can pack your camera away, without turning it off, and go to your next location. However, it may be worth staying until the camera has performed LENR to make sure everything is okay.

6 Check the shot If you've waited a long time for the image to be processed, it is worth checking everything is okay. Zoom in on the image, make sure it is in focus, and check that the camera hasn't moved during the exposure.

All images © Stephen Banks

STARS SHINE THROUGH
Achieving a balance between foreground and background is tricky in low-light situations

LINING UP
Planning shoots means that you can line up elements like the Milky Way with foreground objects

LIT UP CHAPEL
Pointing the torch towards the building makes it a focal point in the image

CLEAN FOREGROUND
Using a torch with a focused beam means no light is spilled onto the foreground

LIGHT THE WAY

Using torches or additional lighting allows you to bring out detail in foreground objects

Photographing landscapes at night can be very tricky because of the tiny amounts of light that your camera is working with. Away from towns and cities, the countryside around us becomes very dark at night, and you either need to push your camera up to extreme exposure times and sensitivities, or utilise additional lighting in the scene. This is where a handheld LED torch can come in useful, not only to light the way when you are walking to your location, but also to light it up for the camera when you get there!

A fairly inexpensive torch, with a focusable front lens, can be picked up for less than £50 and allows you to 'paint' light onto foreground objects, or even draw objects or letters in mid-air if the camera is pointing towards you. This technique is known as light painting, and takes a good amount of practice before you become proficient with the technique.

Obtaining a torch with a focusable beam is key, in order to control where the beam of light will shine. Too wide a beam will scatter too much light, lighting up the whole scene rather than the parts you want it to.

Even when working with relatively long exposure times, you still don't have much time to light up the scene how you want it. It usually takes many attempts to get the lighting right across the whole of the image, and you have to be considerate of other photographers. If you do bump into another photographer at night, explain what you're planning to do and make sure they've finished taking their shots, or take it in turns to produce images.

The light that an LED torch produces will probably be quite cool in colour temperature, compared to the rest of the scene. Shooting in RAW format means that you can even out the colour temperatures in different parts of the image, using local adjustments in Adobe Lightroom. You can also consider getting coloured filters for the front of the torch, to balance the colour temperature or create light with unusual and unnatural colours.

Above
Knowlton Church
This location in north Dorset has very dark skies, and is difficult to photograph without additional lighting

LIGHT UP THE SCENE

Using a torch, or other lighting, can produce pleasing results, highlighting certain areas of the image

1 Too dark! Here, the light from the stars in the sky, and the clouds, almost silhouettes the shape of the cliff. Break out your torch and start shining it at foreground objects in your exposures.

2 Focusing the beam It is worth adjusting the focusable beam of light, so that you have complete control over where the light appears. This is too wide, and is spilling too much light.

Even lighting on the cliff
Even when shooting RAW, there is only so much detail the files will give up. Unless you're using very long exposures, resulting in star trails rather than single points of light in the sky, you will need to use additional lighting to bring details out in the final image.

3 Focused light A focused point of light from the torch can be moved along the scene during the exposure. It can be tricky to ensure an even light pattern across the whole of the scene, but be patient.

4 Start light painting Once the beam of light is focused, switch it off, start your exposure on a 10sec self-timer, walk away from the camera and, when the shutter opens, switch on the torch and start light painting.

5 Keep trying! Over the course of a 30sec exposure, you have a limited amount of time to light up the shot. In this exposure, there's too much light on the left hand side of the image.

6 Even lighting After a few attempts, the result is a shot with an even lighting across the cliff and details in the rock picked out. The dramatic clouds reveal stars, and the lighting across the image is pleasing.

All images © Stephen Banks

EDIT THE NIGHT SKY
Remove grain and reduce noise in your imagery while retaining detail

When you're shooting night landscape photographs, always make sure that your camera is capturing RAW images. RAW files will store a lot more data than JPGs, and you can quickly bring these details out using a camera RAW editor such as Adobe Photoshop or Lightroom.

Images captured with high ISO sensitivities will be more grainy than those captured with low ISO. When editing, you can reduce this noise to a point, but you begin to lose the finer details of the image if you go too far with the noise reduction. It is, therefore, better to try techniques that reduce or average out noise, such as longer exposures, or stacking exposures in Photoshop as layers with a blend mode of Lighten.

The better the dynamic range of your camera's sensor, the more details you'll be able to pull out in editing. A full-frame camera will perform better in low-light situations, although cameras with smaller sensors have caught up dramatically in the last few years.

The process of editing night-sky images varies massively according to taste. Some photographers like to really make the details of the Milky Way pop, others prefer a more natural look. Experimenting with settings such as Dehaze and Clarity will help you establish a style that you like. Two particular tools in Lightroom are useful, in that they enable you to edit only certain parts of the image. If you wanted to make an adjustment to the Milky Way, you can use the Adjustment Brush to 'paint' on edits to parts of the image. Then there's the Graduated Filter, which will apply effects in a straight line.

Above right
Straight from camera
This is a single 30s exposure, at ISO 3200 and f4. No editing has taken place, and you can see that the Milky Way is still fairly visible in the image. This was also the case when taking the photographs. This location has very dark skies!

BEFORE

1 Load in your shot Working with Adobe Lightroom means that you can apply tags and keep your photos organised in folders. Also, in the Develop tab, all the tools you need to edit your image are in front of you in a focused work environment.

2 Apply global adjustments At night, your camera isn't great at gauging colour temperature. By shooting in RAW, you can adjust this to a more accurate level now. Adjust levels of Shadows, Highlights, Blacks and Whites, as well as Clarity and Saturation.

3 Local adjustments Once you are happy with edits across the whole of the image, you can begin working on specifics. Select the local adjustment brush and start painting. You can see where you've painted clearly by selecting Show Selected Mask Overlay.

4 Graduated Filter If you want to apply an edit in a graduated straight line, select the Graduated Filter tool, and click and drag on the image to show the area where the effect will be applied. This is particularly useful for shots with a defined horizon.

5 Noise reduction Lightroom has a built-in noise reduction tool, which does a good job of getting rid of graininess in your high-ISO images. Selecting a value above 50 will result in a much cleaner image, but you smudge out the finer details in the shot.

AFTER

After much editing...
This shot is composed of ten stacked 30s exposures for the sky, using a motorised mount then a longer foreground exposure. The two layers are then combined, and edited with Google's Nik Collection and global and local adjustments in Lightroom

© Stephen Banks
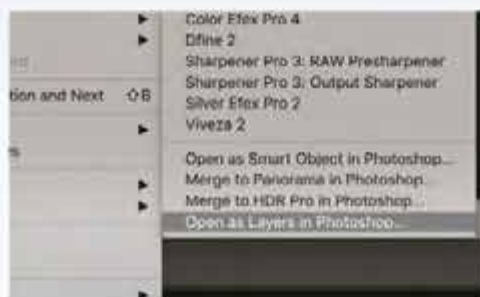
6 Stacking You can reduce the grain in high-ISO images by stacking multiple exposures as Lighten layers in Photoshop. For this sequence, the camera is on a motorised mount, which rotates at the same speed as the earth's rotation, keeping the stars static.

7 Reduction in grain By stacking longer exposures at lower ISOs, the amount of noise in the final image is tiny. With this technique the sky stays static but the foreground blurs, so you will need to load in a different shot of the foreground.

8 Google Nik Collection This collection is an add-on set of filters for Photoshop and Lightroom. Two particular tools are useful for astrophotography, if you want to seriously get into it. These are Tonal Contrast and Detail Extractor. You can see a comparison shot here.

Capture colour and detail

Digital photography provides exceptional control over the technical characteristics of image capture. By learning to correctly manipulate camera settings and take advantage of the convenient re-shooting options available digitally, ultimate depth and detail are achievable

© Mads Peter Iversen

Maximise YOUR IMAGE QUALITY

Digital cameras are capable of producing incredible images, so learn how to use yours like a professional

Image quality has proven a variable definition over the years, with a meaning that has evolved in parallel to the development of camera technology and people's perception of a successful image. It has become a somewhat obscure and generic term that applies to several aspects of the image-making process, made more complex by the fact that every photographer has their own definition. Furthermore, we seem to have become obsessed with the concept, with technique magazines, gear reviews and manufacturer advertising all fixating on the shifting idea of a 'perfect' image. In its purest form, however, 'quality' refers to the technical precision with which an image has been executed, both on the

part of the photographer and the camera equipment itself. While aspects such as composition sometimes become drawn into the same category, in the context of these pages we must think of the term as defining a photograph that correctly fulfils the parameters of exposure, sharpness, colour depth and noise impact. Digital cameras have reached a point where they are exceeding the best film models for sharpness and resolution, but expensive, pro-grade equipment won't guarantee the ultimate image quality. The photographer has to ensure they are using their kit correctly and to its full potential. Indeed the majority of flaws found in modern digital images can be attributed to misuse of gear, through

oversight or lack of understanding on the user's part. We have to be aware of the strengths and weakness of our equipment and how it behaves in a whole range of situations. In this guide we walk through each of the key causes of degraded image quality, explaining what to watch out for and how they create challenges, focusing in-depth on how to quickly and easily solve these issues. Handheld and tripod-mounted shooting each have their own unique demands, as does photographing outdoors. We'll provide situation-specific tutorials on how to balance exposure with creative effect in each instance, and finally, how to use software to produce crisp, high-resolution, well-exposed images with the best possible impact.

Pro tripod techniques

Improving sharpness begins with a tripod – but you need to know how to use it

Any technique book you pick up will tell you the same thing – if you want to capture professional levels of sharpness, you need to be shooting with your camera on a tripod. By taking your hands off the camera, you instantly remove the biggest cause of vibration and loss of image sharpness. While it is obvious that very long exposures can't be captured handheld, the real danger is when shooting between around 1/15sec and 1/100sec. It is at these settings that many of us are tempted to try hand-holding our cameras, and at which camera shake may not be immediately obvious in images reviewed on the rear LCD. It is only when images are inspected later, on a computer monitor, that it becomes clear they lack critical sharpness. With your camera and lens standing remotely, you have full control over exposure, camera position and image composition. However, tripod-based shooting possesses its own challenges and risk of detail loss through camera movement. As landscape and travel shooter Mads Iversen highlights, an improperly secured gear setup can cause blur when shooting in extreme conditions. "If it is very windy or your tripod stands in moving water, [simply] tightening the locks of the ball head is not always enough," he explains. It is essential to correctly place the tripod legs so that weight is evenly distributed, as this will minimise slipping or gradual 'creep' of the tripod during an extended exposure. A useful tip is to assess the terrain and consider multiple positions before setting up the tripod, as this saves time re-shooting images or moving the setup with the camera in place – a time when accidents are more likely.

TURN OFF IMAGE STABILISATION
When tripod mounted deactivate IS, as it is unnecessary and can itself generate vibration

TOP SECTIONS FIRST
For maximum stability and minimal vibration, extend the top leg sections first, as these are strongest

ADJUST FOR CAMBER
Vary leg length if necessary, to keep the tripod setup level on uneven surfaces

FOOT SPIKES
To further reduce tripod movement, utilise extendible foot spikes to secure it to the ground

© VOJTa Herout

© Mike Atkinson

Above
Capture subtle lighting
In order to successfully recreate the subtle tones of pre-dawn or post-sunset, longer exposures are required, combined with lower ISO sensitivities. Only when working from a tripod does the photographer have the necessary working flexibility

Right
Embrace tripod advantages
Certain image effects are impossible to capture with an unsupported camera. For extended exposures shot in extreme locations, with the need to capture bracketed exposures due to high contrast, a tripod is indispensable

Battling the wind
Even on a tripod wind can introduce camera shake. Pro photographer Mads Iversen (www.mpiphoto.dk) provides some solutions

1 Take multiple photos If conditions force you to use a slow shutter speed (below around 1/8sec), take multiple images or even use continuous shooting mode to capture a series of images – the chances are one of them will be sharp.

2 Centre of mass Retract the centre column – the closer the camera is to the tripod's centre of mass, the less shake will occur. That's why many heavy telezoom lenses come with a tripod collar or even a built-in tripod socket.

3 Apply downward pressure I never bring a beanbag to keep weight down for landscape and travel photography. Instead, I have been able to achieve great results by holding the ball head and pushing downwards.

3x © Mads Peter Iversen

Overcome outdoor photography challenges

Outside the studio you lose control over the environment. Use these techniques to address associated problems

BATTLE RAIN SPOTS
Keep a UV filter on your lens while composing, remove it just before the exposure and replace it immediately afterwards. This protects the front glass from rain drops, but still allows framing.

NO EXCESS FILTERS
Even professional filters provide additional barriers for light to pass through to reach your sensor. Avoid stacking filters to get the most from your lens and maximise sharpness.

VIBRATION PROBLEMS
Water movement can cause detectable vibrations. By lengthening your exposure to several seconds, these occur over less percentage of your total exposure time, reducing their appearance.

UTILISE LIVE VIEW
Live View provides magnified views for critical sharpness checking and locks the mirror in DSLRs up by default, reducing internal vibrations in longer exposures.

DIFFRACTION EFFECTS
Landscape shooters often use long exposures with smaller apertures. Try not to go beyond f16, as this creates lower sharpness due to diffraction. f11-16 gives a good balance.

(insets) 5x © Peter Fenech   (Main) © Mads Peter Iversen

Create super-resolution images

Want to print your images in large format?
Use Photoshop to stitch ultra-high resolution files

Below
Capture more detail
By stitching together several images made with a longer lens, the final file displays greater sharpness and can be printed much larger without losing any detail
© Peter Fenech

Right
Native resolution
In this image, shot using a standard focal length, the resolution is limited to the pixel count of the camera's sensor, and the quality will struggle if it were to be printed at a larger scale

BEFORE

AFTER
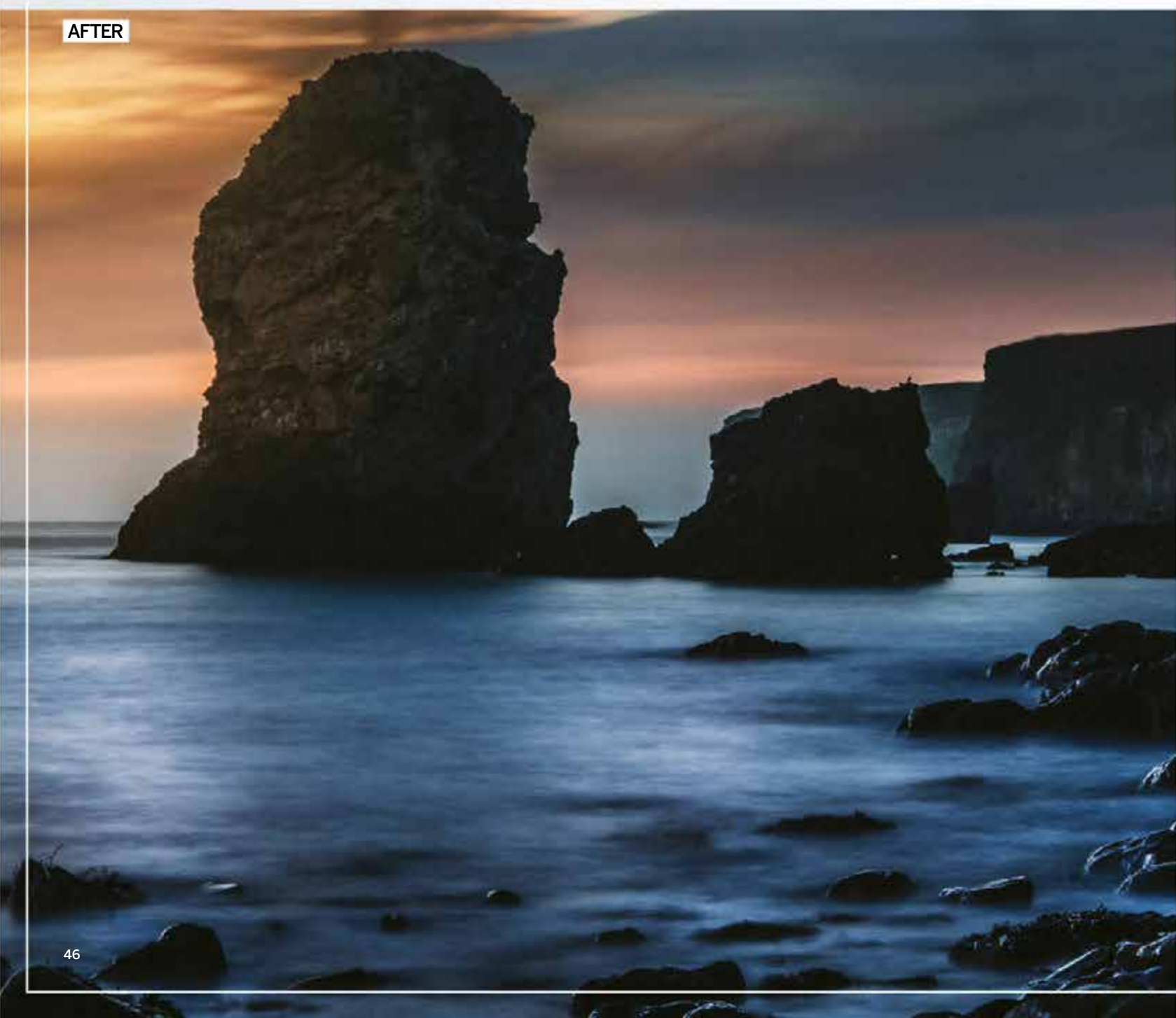
1 **Shoot and import** Use a zoom lens to photograph a scene across several images, just like when shooting a panorama, but in two or three rows. Ensure you overlap your shots by around 20%. Import your image sequence and find them in Bridge or Lightroom.

2 **Process the RAW files** Make essential RAW adjustments in Adobe Camera Raw, Lightroom or Capture. In ACR, click Select All and Synchronize to make universal edits. Apply lens distortion and chromatic aberration corrections to make image stitching easier.

3 **Open in Photoshop** Move your files into Photoshop. By default each image is assigned its own tab. We will need to bring the segments together into a single tab to blend them. Image stitching can be automated, but we will perform most steps manually here.
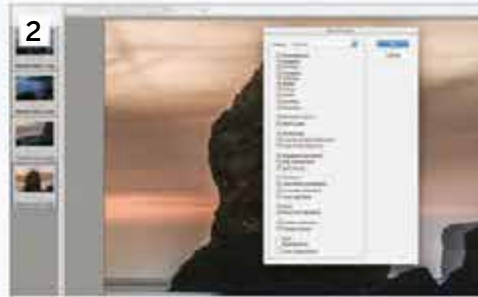
4 **Extend your canvas** Select a corner image, choose the Crop Tool [C] and toggle Original Ratio from the aspect drop-down. Drag out space around your image, leaving room to place your remaining image segments. Any unwanted space can be removed again later. Hit Enter to confirm.

5 **Arrange images** Go to the image that will sit next to the first photo horizontally. Head to Select>All, copy the image and paste it onto your extended canvas. Tap V and move the shot into position. When all images are in place go to Edit>Auto-Align Layers.

6 **Auto-Blend Layers** Follow Edit>Auto-Blend Layers and choose Panorama as the Blend Method. This will identify the image seams and merge the segments at those points. Although the Photomerge Tool can be used here, manual arrangement and blending often produces more controllable results.

7 **Retouch and crop** Auto-Blend Layers is an effective tool, but there may be small areas along the seams that require retouching. A simple application of the Clone Stamp Tool or Spot Healing Brush Tool should remove subtle joins. The Alignment and Blending process may necessitate slight cropping.

8 **Make final adjustments** While editing the ultra-high resolution image uses more processing power, local manipulation should be made at this stage to avoid producing uneven brightness across seams. Here some local dodging and burning was conducted, plus colour, contrast and sharpening alterations.

Conquer handheld challenges

Sometimes it is impractical to use a tripod, but perfectly sharp shots are still achievable

Tripods may not be permitted in many buildings or at tourist locations, often with safety and security cited as the main reasons. And in some situations, steep terrain or an elevated vantage point may render tripod usage impossible. As photographers shooting in a diverse spectrum of environments, we can guarantee that there will be times where handheld photography will be a necessity. There are, in fact, advantages to this way of working, namely freedom of composition and speed of operation – tripods can be cumbersome pieces of equipment and may at times hinder the creative process. Portrait and wedding photographers need to be able to move freely to cover multiple angles with ease, while travel shooters prefer the inconspicuous nature of a stripped-back camera setup. There are of course drawbacks to photographing unsupported, camera shake being the most common and discussed symptom. The general rule of selecting a shutter speed that equals or exceeds the equivalent focal length of the lens in use applies and where this is not possible, alternative methods must be employed to maintain image quality. A logical solution to a slow shutter speed is to raise the ISO or set a minimum exposure, below which the camera will not permit the shutter speed to fall, but this introduces the issue of increased image noise. A better approach is to attempt to adapt your shooting technique to stabilise your stance and gain more sharpness from your existing settings. Leaning against a solid wall and holding the camera with the correct posture is an easy way to judge your baseline ability to keep the sensor steady while the shutter is open. From this you will be able predict in which situations a drop in the quality of your handheld images is likely.

PORTRAIT ORIENTATION
Tuck in the arm supporting the camera and hold the viewfinder securely to the face

BALANCE YOUR CAMERA
Always support the lens, holding heavy optics at the centre for greater balance

LOW-LEVEL STABILITY
Rest your elbow on the flesh of your leg, not the kneecap, when crouching

CENTRE OF GRAVITY
In landscape orientation, move your elbows into your body to stop camera movement. Keep your feet apart

2x © Mike Atkinson

Shoot in burst mode

Burst or continuous shooting mode creates rapid image sequences, of which one may be 'the shot'

1 Set continuous high mode On Canon cameras you can switch to burst mode from within the menus, while on some Nikon and other models there is often a position on the shooting mode dial. Either way, always select the highest speed burst mode ('continuous high').
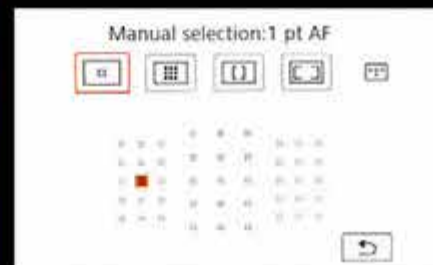
2 Focus your image Place your autofocus point over the subject and focus using either the shutter button or back focus button. You can reference Live View to zoom in and check sharpness, but it's advisable on a heavier DSLR to switch back to the viewfinder to shoot.

3 Take the shot Hold your breath to reduce body movement and gently depress the shutter release button, holding it down for the duration of the burst. Fire five or six shots to increase your chances of capturing a sharp image, at the moment your camera is still.

Improve your focusing technique

Independent of lens quality, poor focusing technique will always prevent maximum sharpness, so follow these tips

BACK BUTTON FOCUSING (AF ON)
Assign focusing to the AF On (AF-L) button for locked focus, so that you don't re-focus when lifting and re-applying pressure to the shutter button.

MOVE YOUR AF POINT
The focus-recompose technique fails to work at wide apertures, as the focused area is so narrow and may not cover your subject. Instead move the AF point in your viewfinder.

ZOOM IN USING LV
Assign one-touch 100% magnification to your zoom button for rapid sharpness assessment. Additionally, activate focus peaking to assist with accurate focusing.

CROSS-TYPE
Cross-type AF points are more accurate as they calculate focus on both vertical and horizontal axes. If your camera doesn't feature all cross-type points, use the centre point only.

USE DOF PREVIEW
To assess depth of field, look through the viewfinder and press the DOF preview button, to stop down the aperture and reveal how much focus falloff will occur.

Above
Capture detail handheld

With a steady hand and appropriate stance, it is possible to capture images containing fine detail without the aid of a tripod, such as in this image

Right
Low light

As image stabilisation technology improves, it is easier than ever to capture sharp photos as the light fades. Lean against a solid surface and find a balance between shutter speed and noise, increasing ISO incrementally

© Jason Row

AFTER

Manually blend your exposures

Balancing shadows and highlights is vital. Manual exposure blending can be a cleaner option than HDR

BEFORE

Above
A balanced exposure
By blending the image information from multiple exposures, using layers, the photographer has complete control over highlights and shadows
© **Peter Fenech**

Right
Limited dynamic range
The high-contrast lighting of sunrise has caused a loss of detail in the brightest and darkest areas of this image, but we can fix this with manual exposure blending; follow our step-by-step to find out how

1 RAW processing In the field, shoot a bracketed series of exposures, ensuring you capture a good range of shadow and highlight detail. Locate your RAW files, open them in Camera Raw and apply equal lens corrections, noise reduction and sharpening to all, using Synchronize.

2 Choose a base image Select an exposure with a mid-range brightness as a base image to work on – usually the shot with zero exposure compensation (i.e. the 'centred' exposure). Rename the background layer appropriately, in order to remind you that this image should be at the bottom of the layer stack.

3 Stack your exposures Open the remaining images over your base image, adding a layer mask to each while holding down Alt to create a black mask. This will hide the overlaying images, enabling you to gradually reveal the brighter or darker pixels from the overexposed and underexposed images respectively.

4 Align layers Ideally you will have shot landscapes such as this on a tripod, so your images should be identically framed, however to account for any tripod slip, go to Edit>Auto-Align Layers and leave the Projection set to Auto. Your bracketed images should now be exactly overlaid.

5 Work the shadows With all layers labelled, use a large, soft brush to paint with white on the Shadows Layer Mask to reveal detail in the darkest areas of the shot. Make a selection of edges bordering the sky, to prevent unwanted brightening from 'spilling' into those areas.

6 Bring back the highlights Repeat the process on the highlights layer, using a low-opacity brush with medium flow to gently darken the brightest areas. Here we made a series of brush strokes along the horizon and a couple of circular strokes over the sun, in order to keep the effect looking as natural as possible.

7 Adjust opacity One of the best aspects of working on layers is that you can easily alter the strength of an effect. Try lowering the opacity of the shadow and highlight layers to around 80%, and also use a black brush in order to reduce blending on a local level.

8 Flatten and retouch Flatten your document (Image>Flatten) and proceed to make any further retouching adjustments you feel necessary. Your image may lack a little contrast, so light Curves application is commonly necessary. Local colour balancing can also aid depth and is easier to apply at this stage.

Expose for quality

Capturing a well-exposed file is about more than just image brightness

We can control how much light contacts the sensor by altering the shutter speed and aperture size. A well-exposed image demonstrates a balance of the ratio, but it is possible to tip this further in our favour by overexposing slightly, to increase the amount of light harvested. This benefits both noise presence and colour reproduction, with richer tones and smoother gradation of hues in flatter image areas, such as the sky. The technique, known as 'shooting to the right' – a reference to the weighting of an image histogram to the right side – can be a difficult concept to adopt, as intentionally exposing 'incorrectly' may seem like an alien concept. However, while the shooting-to-the-right technique requires us to pull back the exposure in RAW processing, it is essential to recognise that too much overexposure can also negatively impact image quality. Once a pixel is saturated with light it no longer produces data, so will show up as pure white. Highlights blown in this way cannot be rescued in software.

Learn noise reduction essentials

In-camera settings save time in software, but there are some important considerations for maximum usefulness

Most cameras have long-exposure and high-ISO noise-reduction options. For long-exposure NR, remember that the process will take as long as your actual exposure, so it might be best avoided for multi-minute exposures, due to time constraints. Always test in-camera high-ISO NR to ensure a balance between reduced noise and detail retention, and tweak settings if necessary from within the custom settings menu on your camera. If used at bespoke levels, these noise-battling functions can produce clean images out-of-camera and on an image-specific basis.

@ Mads Peter Iversen

Spotless long exposures
By capturing a 'black frame', long-exposure NR is able to cancel out much of the noise produced by the extended sensor activity, more effectively than post-production work. However, it can interrupt your workflow considerably

@ Mike Atkinson

Clean high sensitivities
When an increase in ISO is unavoidable, such as during performances under stage lighting, high-ISO NR can minimise work at the computer. A downside is often a reduced continuous shooting rate

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Prevent burnt-out highlights
In high-contrast scenes it can be easy to lose highlight detail. Jason Row recommends a common camera feature: "Turn on the highlight clipping indicator – blown highlights are a serious problem, but are easily avoided"

Shoot 'to the right'

Maximising light capture yields higher image quality. Here Jason Row shows us how it's done

1 Get the shot Shooting in RAW, you need to bunch your histogram towards the right end by increasing exposure. The very right of the histogram must not spill over the right edge. As you can see, the end result looks very washed out.

2 Initial editing Use the Exposure slider to bring the overall brightness back to the middle of the histogram. We can then boost the contrast by pushing the Blacks to the left and Whites to the right of the histogram.

3 Give the image punch Finally correct white balance and make any extra edits, such as the graduated ND filter used in this shot. Since we have the optimal output from our sensor, we have greater leeway to process the image.

2x @ Jason Row

Understand your histogram

The histogram is an excellent tool for judging exposure. Jason Row (**jason rowphotography. co.uk**) explains how to read it

UNDERSTANDING THE HISTOGRAM

A histogram is like a light bucket   if light spills off the left side, the image is underexposed. If it spills to the right you are overexposing. Adjust your exposure to get the bulk of the graph in the centre or slightly to the right.

PREVIEW HISTOGRAMS

Live histograms are useful, however the histogram you see when reviewing images is more accurate. If you are looking for the best result, take a test shot, review the resulting histogram and correct if required.

AVOID CLIPPED HIGHLIGHTS

If you are struggling to keep light inside the histogram at both ends in high contrast scenes, aim to get the highlights inside the graph and let the shadows slip   you can recover shadows, but it is impossible to recover a blown highlight.

POST-PRODUCTION HISTOGRAMS

Histograms aren't just in camera   most editing software will also display the histogram, enabling you to adjust your exposure and contrast by using Levels sliders or Curves. The same rules apply to keeping the light information inside the limits of the graph.

SHOOT RAW, NOT JPEG

RAW files have a wider dynamic range than JPEGs, however the histogram you see when reviewing your image is based on the JPEG preview file. This means if you are shooting RAW, you may have some usable tones beyond the range of the histogram.

© Jason Row

Know your LCD's limits

"Do not rely on your LCD screen to judge exposure or colour, as they are not as accurate as your computer screen at home," says professional photographer Jason Row

PORTRAITS
ON THE RUN

Portrait photographer Holly Wren explains the challenges of a quick portrait session, and how these can be overcome when time is limited

Whether your talent is working to a tight schedule, you are shooting on the fly or you need to meet an editorial deadline, time is sometimes limited on a shoot.

Portraits can be challenging at the best of times, but even more so when shooting to a strict time schedule. Often as the photographer, you may have never met the subject before, visited the location or be able to control the light. So what are the key components of taking a successful, but quick portrait in these conditions? Over the following pages we'll explore some simple ideas to keep in mind when working quickly.

However, before considering the setup and location, it's important to have the right kit. If you're working hastily you'll probably be moving quickly, setting up with speed and carrying your own gear, so you'll need to keep your bag as simple and lightweight as possible.

An ideal lens for this situation is the 50mm; nicknamed the 'nifty fifty', it's popular because it's small and lightweight, with a focusing distance that enables you to be close enough for a headshot, or further away for a full length portrait. Arguably, at 50mm you may see some distortion in the face, so consider having longer lenses to hand. An 85mm or 105mm are ideal accompaniments, as the focal lengths

are perfect for portraiture. They flatter the face, and offer a good amount of compression and wide maximum apertures for shallow depth of field and attractive bokeh.

For your lighting, simple is better – work with natural light, and where needed consider adding in a silver or white reflector to push light back into the face and eyes. If you need to add more light, a single flash setup will be sufficient to shape the key light on your subject. Using a speedlight (off-camera) or location light will help make your shots look more considered. But the light needs to be softened, so take a modifier such as a small softbox or umbrella, along with a stand.

Erika
Putting the sun behind the subject creates a rim light, but as the sun is soft and diffused by the cloud the light is still quite even. So, a reflector is not needed to even the exposure
All images © Holly Wren

SHOOT OUTSIDE

Capture flattering portraits with the power of natural light

Conducting your shoot outside allows you to use the natural light, which is arguably the quickest method as you do not need to think about creating light from scratch. Daylight has a flattering, natural colour tone and whether you have bright sunlight or an overcast sky, there is plenty of it to play with.

However, it does also pose challenges; you can't move the sun or turn its intensity up and down, and depending on location and time of year, it can either create harsh light and therefore hard shadows, or be completely flat and dull. This means you need to think about how you position your subject relative to the sun and how you can the shape it to create engaging images quickly.

Follow these simple ideas on how to successfully shoot quickly in natural light.

1 Use the shade

The quickest and easiest thing to do is place your subject in the shade; look for the shade created by buildings, archways, trees or walls. The area in shade needs to be large enough to eliminate any light falling on the part of subject you want to include in the frame. For example, to create a full-length portrait, their whole body will need to be shaded. The idea is to ensure an even, soft light on them that will make creating the correct exposure simple.

BEFORE

AFTER

Left
Before
The light is limited under the cover of the trees, making the face look flat and dull

Above
After
Adding a silver reflector brings up the light on the face and evens the skin to make the image more flattering

Right
BTS
Using a reflector under the tree cover pushes light from the overcast sky back to the subject's face, and helps to create depth and separation from the background

Daisy
Cropping close to the
subject and shooting
with a large aperture
creates shallow
depth of field and
also eliminates the
background entirely

Top tips for efficient outdoor photography

1 Do your research If possible, find out as much about the subject and location before you arrive. Any information will help you plan, and knowing the time of day and likely weather will help you predict the type and intensity of natural light you'll get.

2 Keep it simple You don't have long, so don't complicate things. Work with easy-to-carry and assemble kit. And start with the basic, natural light, then layer reflectors and flash if needed.

3 Pose your model This is about the subject being comfortable and confident, but they need to look good! Start by asking them to sit or stand in a way they are comfortable with, and then make the alterations you need to create the best shot. I find asking them to either sit, perch or lean on or against something helps most people feel less awkward.

4 Become a light enthusiast I'm not talking about mastering flash. Just become a master at observing the available light, artificial or natural. Once you are aware of what you have, you can use it or eliminate it as required.

5 Don't panic! Worst-case scenario, if you can't control backgrounds or light, then crop close, open your aperture wide and eliminate the background. There is almost no situation where this isn't possible and it's guaranteed to provide you with a good, strong image.

2 Pick the right crop

Look at your location and decide how much of the environment you want to include. The location may be part of your story, or it may just be a distraction. Remember the more background you include the more elements you'll need to consider – which might slow you down. Passing people and traffic or changing light will all compete for the viewer's attention and complicate your exposure. Keep it simple; look for textured or coloured surfaces like a wall or fence to photograph against.

Left
Long crop
I used the lines of the wall and the building to create a contextual shot including the Tate Modern. The background is quite clean, so it's not distracting and the subject is still the focus

Above
Mid crop
Here I focus in, showing the subject full length, but still use the background to create context. Putting the subject in the shadow of the wall eliminates any harsh light or shadows

Below
Close crop
A tighter crop eliminates all distractions and focuses on the face. The wall becomes more abstract and forms a background of colour and texture rather than providing context

BEFORE

Above
Before
On a bright day, facing the subject away from the sun means you use the sun to create a beautiful rim/ hair light, but the face will be shaded and underexposed

3 Reflectors for all conditions

When working outdoors, a reflector should be your go-to accessory to add light into a portrait and create catchlights in the eyes. It is often assumed reflectors only work in bright sunlight, but they can be just as effective in shade or overcast conditions. A silver reflector gives you a bright, punchy light – useful when the light is flat, while white is better on bright days. You can control the intensity of light with the distance from the reflector to your subject and the angle in relation to the sun.

AFTER

Above
After
Using a silver reflector brings the light back into the subject's face, creating catchlights and evening out the exposure

Right
BTS
Use a silver reflector in harsh light to quickly and effectively add light to the face when the subject has the sun behind or to the side of them

BEFORE

AFTER

SHOOT INSIDE

Learn to overcome the constraints of shooting indoors with these tips

Shooting indoors can be more convenient, provide shelter from the elements and offer a more static background. But if you're working environmentally then your location is unlikely to have controlled or predictable light.

The temperature of the light will provide the biggest challenge, often primarily from artificial sources – it can be dull, directional and much warmer than daylight. Harsh tungsten lights from above can create unwanted colour casts and hard shadows under the eyes.

To take fast portraits indoors, you'll need to determine the temperature of the light, locate natural light and use both to shape your image. The following tips will help you succeed.

1 Look for natural light sources

Where possible, identify the natural light if it exists. This will typically be coming from windows, doors or skylights. It will be the most flattering light, so place your subject as close to a window or door as possible, facing them towards the natural light. Eliminate unwanted backgrounds or distractions, take a closer crop, or use a wide aperture to blur the background.

Below
Position
The model is positioned next to the main source of natural light, a large window

Right
Light the face
Face the subject towards the light and use a simple background with a shallow depth of field. By moving the position of the face relative to the window you can create shape and the gentle falloff of shadow

2 Combine natural light with a reflector or flash

The angle of view may mean you can only place part, if any, of the subject's face towards the natural light. This can lead to a difference in exposure or temperature of light across the face. To correct this, add a reflector or your single flash to even the exposure and lift the light on the part of the face that is turned away from the natural light. This will create an even, cooler toned light that will be more flattering and retain the feeling of natural light.

"Identify the natural light… It will be the most flattering"

Below
Working together
Window light is used as the key light, and a silver reflector to the left helps create fill on the side of the face that's not facing the window. This evens the tone and exposure across the face

3 One-light setup

Where no natural light is available, use the incandescent light to create a backdrop to your image. You can also consider the surfaces they reflect off or illuminate to create further pockets of light. They will give the image depth and context, and create ambience. You can then use your flash as the key light, off-camera and through a soft modifier to create a more flattering portrait light.

Profoto A1 studio light

Profoto has just released what it is coining 'the world's smallest studio light'. About the size and weight of a traditional speedlight, the A1 is the latest addition to Profoto's family of on-location flashes, with the added bonus of being a truly usable unit on-camera. It's everything you'd expect from Profoto; with beautiful light, soft falloff, power, a lithium battery and reliability in connection off-camera.

If you want a light that's small but powerful and most importantly reliable, with insane recycle times to match, look no further. But expect to pay the normal Profoto premium, the unit is retailing at £849 in the UK.

Above
Rachael
Here there is no natural light. I set up the Profoto A1 off-camera with a shoot-through umbrella, which is fired by connecting the Air Trigger to the camera's hotshoe. The light is positioned in front of the subject, just left off centre as the key light. To create depth and context, the artificial lights in the room were used as a backdrop, which help create a rim light and separate the subject from the background

Right
Aided by the A1
The new Profoto A1, with its distinctive round head, is the perfect solution to lighting on the run. It's compact, lightweight, has fast recycle times and can be used off-camera as the key light on a portrait shoot
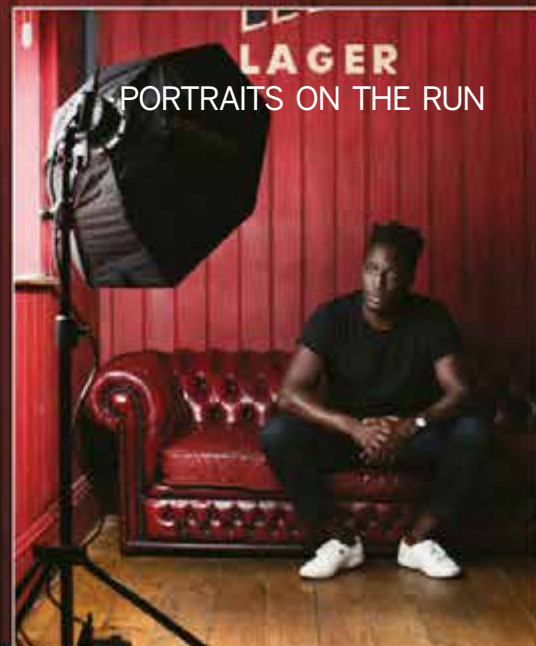
Above
Combination
A light is placed close to the window, meaning the light from the flash and natural light come from the same direction, creating a natural-looking falloff on the subject's face

Left
Ayo
A flash on a small softbox is used to infill and create more light

THINK CREATIVELY IF TIME ALLOWS

Even if you're short for time or are on a tight schedule, it doesn't take much to add a bit to creative flair to your portraits

Once you have mastered a few simple setups for efficient portrait shooting, you can play with more creative ways to use both the natural and artificial light in a location. Working quickly to a time schedule doesn't mean that you can't be creative, but make sure you have your desired shot in the bag first before moving on to a more elaborate setup. Here are two options to consider that utilise the available light and require minimal setup, enabling you to continue to work quickly and efficiently.

1 Use harsh light

You can use the spots of hard light in the shadows to create interest on the subject. The key thing to remember is to expose for the highlights and keep the face in those areas.

Below
Reflective
Shooting outside to in creates intrigue

Right
Gleaming
Using the hot spots of light can add depth and interest to an image

2 Shoot outside in!

Put your subject in the window and photograph through the glass. The key to mastering this technique is watching the reflections; the less reflections the better, so the less light, traffic and activity outside the window, the easier it will be to create focus on the subject.

EDIT FOR IMPACT

Make some quick and minimal edits to your portraits for a natural look

Creating a great portrait doesn't stop after the image is taken; making some simple adjustments to your image in post-processing will help define and polish your shot.

I like to shoot the best image possible in-camera. For me, retouching is about making the adjustments that couldn't be made in-camera, to tidy up details, remove distractions, correct colour or make final white balance adjustments. And importantly, do a realistic skin retouch; I don't want my subject to look overly processed or fake, so the key is to do as little as possible while making the portrait as flattering as possible. How far you go with skin editing is down to your personal style, but can also be influenced by the expectations of your subject or client.

My rule of thumb for clearing up skin is that anything that is not permanent can be removed; spots, dry skin and blemishes go, but scars and freckles, for example, stay. Although, if there is anything that bothers your subject or is particularly distracting in appearance, this can be reduced in post without being altogether removed.

The portraits created using these techniques are lit mainly with natural light, and are, on the whole, relatively flat, with even exposures across the skin. This will make them easier to retouch, and a few simple steps in Adobe Lightroom and Photoshop will give you a polished portrait.

Inset
Autumnal
For this portrait, we only need to even a few areas of the skin and do a little bit of work with Photoshop's Healing Brush

BEFORE

AFTER
Slight tweaks
As a general rule, portrait post-processing should be kept to a minimum in order to maintain a natural look
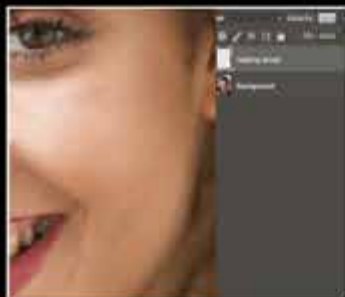
1 Spot removal Use the Healing Brush to remove any large pimples or areas of raised texture. This brush samples the skin, so make sure you sample in an area close to the 'pimple' in proximity and skin tone.

2 Even skin Creating a new layer, use the Clone Stamp at a low Flow around 4-6% to even the skin – under the eyes can be lightened by sampling the skin just below, and carefully brushing over the darker circles.

3 Levels The Levels tool helps to adjust the brightness and contrast of the image by altering the location of the blacks, whites and midtones. I like to create contrast and depth by lowering the shadows and blacks.

4 Lightroom Back in Lightroom I make final alterations using the Radial Filter, which enables me to apply changes to saturation, clarity and exposure on the background only.

MAINTAIN CONSISTENT COLOUR ONLINE

Ensure your images look their best in online galleries by taking control of colour

Reproducing colours equally in all of your online imagery can be a challenge, as there are many factors that can alter their appearance. The overriding issue is that of computer screens; it is impossible to predict how each of your viewers will see your images, as every screen has a different colour bias. Secondly, the internet does not display a full range of colours, so most native colour spaces won't display properly on all photo-sharing platforms. Furthermore, every platform can vary in how it translates the digital information in your image files to an on-screen image. With all of these obstacles it can be a frustrating experience when trying to make your online portfolio look its best, especially when you have spent time carefully shooting and editing your work. Here are some simple steps to put into action, to minimise online photo-sharing stress and give your photos the display quality they deserve.

Edit in a neutral setting

An often overlooked mistake in the colour correction workflow is to make adjustments in a room with lighting that lacks colour balance. Editing in a room with lots of warm lighting can cause your eyes to over correct the colours in your image, leading you to introduce an opposite colour cast. Similarly a room that is too dark or too light will cause misprocessing of exposure and colour. A room with no direct sunlight and neutral grey walls is ideal.

Test images on each platform

An advisable step before posting images online is to test-view each photo-sharing site for colour reproduction. Facebook, Flickr, Instagram and 500px can all introduce slightly different colour shifts that are not easy to predict and can vary depending on image content. Highly colourful photos suffer the most, as colour shifts are likely to be more noticeable. Change the privacy settings of these images so only you can see them and use them as a reference for your future posts.

Calibrate your monitor

Consistent colour starts with a calibrated monitor. Buy a colour calibration device for between £50 £100 and use this to easily standardise your screen's colour reproduction, removing any subtle colour shifts that may be unsightly on a viewer's monitor.

Use a colour profile

The image you see on the back of your camera is actually a JPEG preview of your RAW image. If shooting RAW, apply a camera colour preset in Camera Raw or Lightroom, to help maintain colour from shoot to showcase.

Conclusion

Photographers new to online sharing must adapt to a web-based editing mindset. Processing for online viewing greatly differs from editing for print. Your photos will be seen backlit on-screen, so assess your colour accordingly.
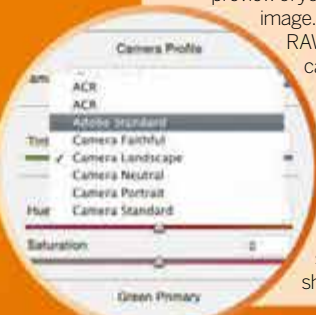
Use an sRGB colour space

Convert all images bound for the web to sRGB. In Photoshop go Edit>Convert to Profile and choose sRGB IEC61966 2.1. This smaller colour space will display more accurately in web browsers, making it easier to approximate online colour while editing.

Overcompensate with colour in PS

A skill to be mastered when running online image portfolios is the treatment of colour in post-processing. Once you have followed these steps and are able to better predict what kind of colour shifts you are likely to see when sharing photos on each social site, you must learn to compensate for these when editing. An often necessary technique is the over-editing of colour and tone, to offset the lack of colour and misrepresentation of hues online.

Test images on matte and glossy screens

Textured and glossy surfaces reflect light differently, and therefore the glossiness of screens influences how our eyes perceive the colours they display. Test-viewing images on both types of computer monitor can at least remove one variable from the challenge of non-standard monitor calibration.

Shoot food in the studio with flash

Follow our simple guide to shooting and editing an enticing food image with the help of flash

Difficulty level: Intermediate/Expert
Time taken: 6 hours

In this tutorial we're going to explain how to shoot luxury chocolates in the studio, using flash. The most important part of a food shoot is deciding on the styling and concept of the image/project. This includes considering the composition of the shot, the overall feel and mood to be created with the lighting, and the styling and timings when you add in the food. Chocolates are quite small and they will melt easily, so it can be tricky to arrange them well. It is also worth thinking about what props you might want to use to complement the finished food. After these decisions have been made, you need to set up the studio. Using flash in food photography is really useful because it means there isn't a continuous (hot) light source pointing at your subject, which could potentially cause the food to wilt, melt or generally deteriorate – something you don't want in your beautiful imagery! That said, with LED technology you could easily work with a constant light source if you find flash tricky. We used four separate light sources in this shoot to achieve the finished piece, with each light adding something to the final image.

What you'll need

- Camera
- 85mm tilt-shift lens or similar
- Capture One or similar
- Tripod or studio stand
- 2 flash heads with strip light boxes
- Flash head with snoot
- Fresnel for backlighting
- Diffusion panel
  (e.g. tracing paper or Perspex)
- Lots of stands
- Choice of material for base
  (e.g. marble)
- Brown card for background
- Selection of chocolates
- Items for propping
  (e.g. chocolate shavings, ribbon)
- Photoshop

Right
Luxury chocolate stack
A selection of luxury chocolates photographed with studio flash. Styled using hessian ribbon, veined marble and chocolate shavings to give extra interest
© **Double Exposure Photographic**

Shooting steps
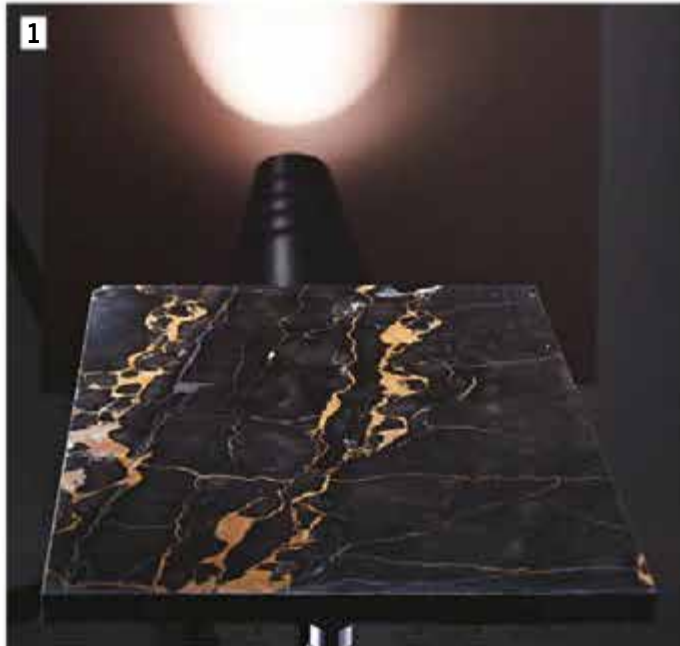
Food stylists Enlist the help of a food stylist or home economist

Although we didn't use a food stylist for this shoot, we strongly recommend doing so because they will have the expertise to know what looks good very quickly, leaving you to concentrate on the camera, lenses and lighting. Typically a stylist will be in charge of shopping and prepping for a shoot, which means they will be able to pick the best-looking food for you. They will also have lots of tricks to make the food look as appealing and delicious as possible. For example, a food stylist might use a toothpick to help stack the chocolates and keep them in position, or cut items and arrange them in a very structured and harmonious style. If the budget allows, try to get a home economist onboard – they will prepare recipes and cook the dishes for larger projects!

The setup

1 **Choose a base and background**
This first decision can be a little tricky, as you need to choose something that mirrors the atmosphere you want to create in the image. Marble would be ideal for something luxurious, whereas weathered wood might work well for a rustic approach. Here we chose black marble with gold veining, a real showstopper from our local stonemason!

2 **Select any props** Keep it simple. You don't want to use too many props in an image like this because it is all about the chocolates. Since chocolates are small in size you want to choose props that won't be too imposing within the frame; you want the chocolates to be the hero. Think about complementary props and check your colours work together!

3 **Preparation before the shoot**
Ample preparation is key in a shoot like this. You need to make sure you have everything you need before you start, as this will really slow you down otherwise. Make sure you have spares for any chocolates (or other food) you plan to use – it's likely you'll want a few attempts at the composition and styling. Fingerprints are an issue as the chocolate melts, so having spares means you can swap them in.

4 **Composition** Take your time on this step, as you want to make sure you get it right. Choose the camera angle carefully, keeping in mind that you want the chocolates to be the main attraction. The positioning of the chocolates can be difficult, so try moving one piece at a time and taking a shot in between to critique the adjustment.

5 **Set up the lighting** Place your lights and make a test shot. You can change the power as you wish and keep moving them until they are in the right positions. The power settings and positioning will make all the difference here. You're looking for a main light source, fill that complements that light, a rim light and then something in the background. Don't be afraid to add a final light in later to pick out a detail if the shot needs it.

6 **Add the finishing touches** Now it's the time to apply any final touches. Any chocolate shavings can be added now as they will lose their shape and potentially melt if you don't work quickly. We also take multiple images with light in different areas at this stage, which we can later composite together in Photoshop – just make sure that you don't move the camera between the shots!

BACKGROUND LIGHTS
For the background lights we used our Fresnel which produces the rim light on the chocolates. Rim lighting is really key here because it gives a semi hard light that produces specular rim highlights and feels like daylight streaming into the setup. The background radial gradient was created by using a flash head with a snoot attached, pointing at a brown piece of card clipped up behind our chocolate setup.

CAMERA AND LENS
We used our Nikon D810 with a Nikon 85mm tilt-shift lens. This lens enables us to choose our perspective, elevation and focus precisely.

MAIN LIGHTS
We used two flash heads with strip softboxes on either side of our chocolates; on the left as the main light, and on the right as fill. We also used two rolls of tracing paper in front of these softboxes to help diffuse the lighting. The trace removes any hard highlights and creates a smooth, wrapping soft light which improves the appearance of the chocolates' surface. The same effect could also be achieved by using white Perspex in the same position, however we feel that trace is a lot easier to work with and is generally more colour neutral.

71

Edit the shot

1 **Layers in Photoshop** We load our photos into layers in Photoshop, with the main image at the bottom. This way we can use masking to brush through the areas that we want to see.

2 **Spot retouching** Remove any specs of dust, fingerprints or general blemishes from the chocolates using the Clone Stamp Tool or Spot Healing Brush Tool. Overuse of these tools, however, will cause the image to look mushy and lose detail. The base and background will probably also need some work too.

3 **Fixing and airbrushing** On the top chocolate we picked a colour from its edge and used the radial gradient tool to add in some colour where needed. Choosing multiple areas of colour will make it look more realistic, then you can mask out any areas that you don't need. Remember to add noise to the gradient in order to avoid banding.

4 **Adjustment layers** You may want to desaturate some areas, like any areas of black that might be slightly coloured. To do this add a Hue/Saturation adjustment layer and take down the Saturation slider. Brush it off areas using the mask. Adding a Curves layer will exaggerate the contrast.

Below
Editing steps
Once we're happy with what we have shot, we then export images from Capture One to Photoshop for some final retouching and airbrushing
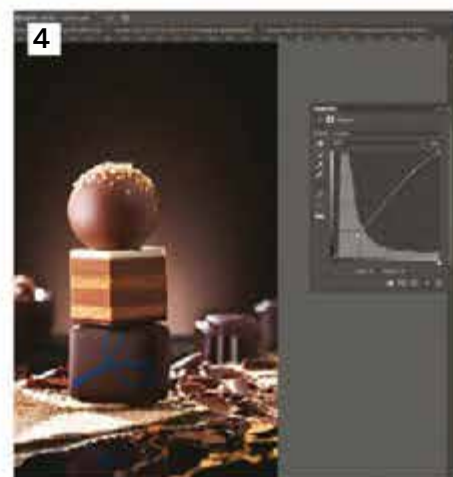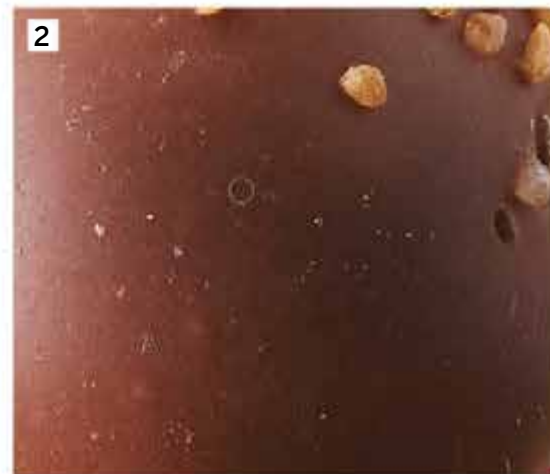
BEFORE

AFTER

Work with user-defined camera settings

Be prepared when a photo opportunity presents itself, and increase your shot success rate with camera customisations

Sometimes, even when a change in lighting can be predicted and a requirement to alter camera settings planned for, it can be difficult to adapt your camera setup in time to capture your desired images. For example, when shooting a wedding, you might find yourself shooting outside in bright sunshine using a diffused fill flash, then, minutes later, be inside a dark church, requiring essentially inverse settings. By the time you make the alterations, shots may have been missed and now you have to re-enter the previous shutter speed, f-stop and ISO when outside again. So, it is useful to have pre-defined camera setups ready for simultaneous setting changes when the need arises. The majority of DSLRs offer mode dial positions that can be customised with these setting presets, so that specific combinations can be called up on command. Some provide buttons with unfixed functionality, which can be assigned roles as desired by the user. This creates a more tailored shooting experience, with the photographer having the power to redesign the camera handling for their most common assignments. Here we provide an example of how these personalisations can make your camera work for you.

Inset
Missed opportunity
With the camera set up for landscapes, the photographer was unprepared to capture this bird portrait when the photo opportunity presented itself, producing a blurred image

BEFORE

1 Note frequently used settings Review the File Info from images previously shot at your location or in a similar situation, to form an idea of the settings needed under expected lighting conditions.

2 Choose your settings Input either the predicted settings gained from reviewing similar images, or by taking a test shot under each lighting situation. Ensure all the camera parameters are correct before saving a preset.

3 Enter your preset In the menu, save the current settings as a user-defined camera mode. Each manufacturer has a different menu system, but all use a similar process to that found on this Nikon model.

Ready for the shot
By setting up a user-defined mode
dial preset and customising button
layout, appropriate settings were
instantly called up when required
and a sharp image captured

4 Repeat for different conditions Switch back to Manual and enter the camera settings for another environment – in this case, a wide aperture, high ISO and fast shutter speed for rapid action shooting.

5 Access from mode dial When you need the saved settings, you can access them 'on-the-fly' by choosing the appropriate user-defined mode from the mode dial. Switch to a PASM mode if conditions are changeable.

6 Customise function buttons Consider customising any function buttons on your camera body – assign functions appropriate to the conditions you made dial presets for, such as AF mode for the action preset.

MASTER YOUR CAMERA

Film set

Helen Sloan talks shooting stills on the set of Game of Thrones

The job of unit photographer spans several different areas. The most important is scene coverage; I'm the third (sometimes fourth) camera, and that means folding myself into weird shapes to get the shot. Then there's the 'specials,' – portraits of cast members in my impromptu photo studio, used for posters or merchandising. I really love to shoot behind the scenes, documenting not just the material you see on TV, but the amazing locations, extreme conditions and all those interesting details and behind-the-scenes tableaus: the whole ballet of making this show.

There's no typical day 'in the office' – one morning we're setting fire to people, the next we're in a cosy studio, and then we could be in a boat on a choppy lake trying not to tip into the water. On *Thrones*, it's literally 360 degrees of cool stuff. It's art on an industrial scale and I never run out of material.

During all of this I have to be relatively invisible. Normally my cameras are enclosed

in 'sound blimps' which make the task quite difficult. The equipment becomes heavy and cumbersome. Inside the blimp I always have my D5 with a 24-70 and also another body with the 85 1.4 in another blimp!

Luckily for me (and my back) the DF provides me with everything I need in a small and light body – but with all the punch of a larger camera. Its shutter is very quiet, so it's perfect for my BTS work. I can leave my camera cart behind on set, sling the DF over my shoulder and go adventuring across the set, getting some great documentary shots of all the goings-on.

CAMERA OF CHOICE: NIKON DF

Nikon ambassador Helen Sloan has long-favoured the portable power of the Nikon Df. It provides a full-frame 16.2-megapixel sensor but in the form of a very small and lightweight body. This is perfect for long days capturing images on a set, during which time Helen must be extremely active and alert in order to capture all the action. The camera is designed around a very simple, classic layout, with the sort of buttons and dials that one would find on a traditional film camera. It also has the advantage of a very quiet shutter for film-set photography.

It's often necessary to shoot using 'sound blimps', so it's even more important that the weight of the camera is kept to a minimum. This is where the relatively compact dimensions of the Nikon Df come in so handy.

BASED ON HISTORY
The Nikon Df is based on classic Nikon cameras from the days of film, and as such features an appealing retro design

FULL FRAME
Despite its compact and portable body, the Nikon Df features the same full-frame 16.2-megapixel sensor as found in the D4

SILVER OR BLACK
The Nikon Df is available in all-black or silver, so you can opt for whichever version you prefer

All images © Helen Sloan

MEET THE AMBASSADOR

Helen was born in rural Ireland. Given her first camera at age 11, she quickly settled into her 'fly on the wall' personality, capturing memories of life around her. At age 18 while studying art in Belfast, she landed among a group of circus performers, where her non-intrusive style of photography and technical mind lent itself well to capturing circus skills and tricks for publicity shots. A series of melancholy circus portraits caught the attention of a movie producer who invited her to work on the set of a horror movie. Sloan landed a series of jobs on movies and television sets over the next decade, and then *Game of Thrones* came right to her doorstep. Helen is responsible for the photography from the hit HBO drama, having been there since the first day of filming on the pilot episode, and every day since. The job covers many genres of photography: landscape, portraiture, studio lit posters and behind-the-scenes documentaries.

twitter.com/helenstills

NIKON SCHOOL
We get some advice from Neil Freeman

What are the core skills for portrait/film-set photography?
A great portrait should tell a story, and this can be created using aperture, lighting and focal length to ensure that the subject stands out from the background. Shooting a portrait at an aperture of f2 or f2.8 will create a blurred background behind your subject. Try to combine this with shooting at a longer focal length such as 200mm (rather than 50mm or 85mm) which will then compress the perspective of the image. If you then light your subject to change the ratio of light falling on your subject and the background, you will further enhance how your final image looks.

How can the Nikon School help you to develop these skills?
At Nikon School, we have extensive experience with portrait photography covering everything from studio setups to urban portrait shoots and action street shoots. We have a range of courses across all ability levels that cover subjects such as controlling aperture, the best focal length to use, composition techniques and lighting action portraits.

Our courses such as 'Getting Started with Portrait Photography' will give you the confidence to take great portrait shots across a range of lighting conditions. Once you have mastered these skills our more advanced courses such as 'Art of Urban Portraits', 'Art of Film Noir' and 'Hollywood Action' show you how to build an interesting story about the subject, allowing you to get great portrait shots in any situation.

"Nikon cameras allow very fine control over the amount of background blur"

What is the advantage of the Nikon system for portrait/film-set photography?
Nikon cameras allow for full aperture control, giving photographers very fine control over the amount of background blur in their images. Higher-end cameras such as the D7500, D500 and D850 also support either the Nikon Creative Lighting System (CLS) or Advanced Wireless Lighting System (AWL). These systems are built into the cameras or speedlights and allow for either infrared, light pulse or radio control of the speedlights off-camera if required. The Nikon TTL system is incredibly easy to use and understand, enabling photographers to create complicated-looking images very quickly, and by using the very wide dynamic range in Nikon cameras you can also capture much more detail in the highlights and shadows of an image.

What courses do you recommend?
For beginners who want to learn more about portraits specifically, we would recommend 'Getting Started with Portrait Photography'. For enthusiasts and more advanced photographers wanting to try something different we would recommend our 'Art of' series. This covers everything from shooting urban portraits, creating film noir images and Hollywood action scenes with stunt performers to photographing dancers in urban environments.

INSTAGRAM

Keep up-to-date with Nikon School and enjoy great photography in all sorts of genres by following its Instagram feed **@nikonschooluk**
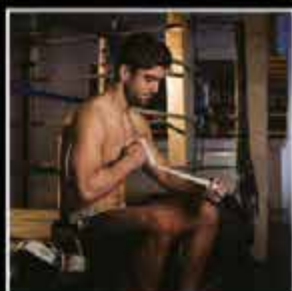
HINTS AND TIPS

1 Shooting portraits When I'm shooting the poster campaigns for *GOT,* I exclusively use my D850 with the 85mm 1.4 lens. This combo makes for fantastic crisp portraits in the studio. The 85 lets me get just the right distance from my subject – so as not to be too close, but still create an intimate feeling in the image.

2 Low-light situations The lighting in this show is absolutely beautiful, but can be a real challenge to shoot. My Nikon bodies are more than capable of achieving brilliant usable images at very high ISOs.

3 Tracking focus At times when shooting action I have to be in a blimp – which means I cannot focus manually on certain lenses. Tracking autofocus is a life saver in these situations!

4 **Silent mode** I've just started using the silent mode on my D850 – it's a game changer for on-set work. Silence is a crucial element of stills work – you must not interrupt the sound recording in any way.

5 **Burst mode/ continuous shooting mode** I use this for explosions and stunts – usually I like to be completely in control of the 'moment' – but this is great for those times when it would be disastrous to have a perfect shot – but with the actors' eyes closed! It's good to have a few frames on either side.

Switch camera systems

Considering changing camera manufacturer? We summarise the main challenges and benefits

Buying into a camera system is quite a financial commitment when you consider the intra-compatibility and modular nature of the technology involved. As you build a range of equipment, your dependency on the system increases proportionally, as your lenses are only compatible with one brand of camera. Even third-party gear from companies such as Sigma and Tamron are tailored towards one host system or another, with lens mounts designed for the major manufacturer's camera lines and flash units featuring the most popular hot-shoe connectors. For most amateur photographers, once they have bought into a camera system, they continue to use that make, largely because there are limited reasons to consider switching to another company.

For professionals however, there are more factors to consider. Sometimes another camera producer will release an accessory or camera model with a specification that better suits their commercial needs. Similarly, the corporate focus of a company may turn in a direction that currently does not serve the plans of the photographer to expand their system; the company may choose to allocate more research and development to their mirrorless camera range rather than their DSLR lens line-up, for example. Inversely, you may find a greater variety of high-quality mirrorless models in a rival range, which can support your need to travel light, but shoot publication-worthy files. In these cases, it may be more commercially sound to jump to another range.

The key issues with doing so are varied however, with both short and long-term implications to be considered. There are the obvious costs associated with replacing cameras, lenses and accessories to think about, not least because of the rapid devaluation of second-hand camera bodies. You may have hoped to swap to an equivalent model in the parallel line-up like-for-like, but

within a year of usage even a professional DSLR will have depreciated in value by hundreds of pounds. Beyond this, you may have to replace non-tradable items such as spare batteries, of which you have acquired many, as well as investing in new memory cards, when your new camera uses a different type.

Aside from costs, convenience is another matter to contemplate. When you change cameras, you change RAW file format, which may cause immediate RAW converter conflicts and can result in archiving issues downstream – you may go to edit two photos from the same folder and find they were made on different cameras, in two incompatible formats. Potential solutions to these challenges include the adaptation of current kit to your new system. Where possible, you can streamline your system transition or consolidate your mixed-system operation by using lens and accessory adaptors, that will enable you to use kit interchangeably. There are lens adaptors to support most mount combinations, although you should always invest in high-quality adaptors to ensure maximum functionality. Expect to pay anywhere from £50 up to £700 for professional units. Flash adaptors are also available that enable the use of cross-system flash setups, however care should be taken that speedlights and cameras are voltage compatible, to avoid damaging the electrical components of each.

There are certainly some significant benefits to switching systems if the photographer has specific reasons to do so – if the costs will be offset by the commercial gain of capturing the desired images. However, the decision to change should never be taken lightly, and does need to be considered carefully. DP

Adapt your lenses

If you decide to switch system, you might save some pennies by adapting your existing optics

One of the biggest expenses associated with a system change is the replacement of your lens range. This is especially true if you shoot a diverse spectrum of genres, as it's likely you will have built up an extensive variety of optics, covering specialist functions. Lens adaptors permit the mounting of lenses on other camera brands, which may circumvent this problem. Do be aware that with some pairings you may lose autofocus, aperture control and image stabilisation capabilities – when adapting Pentax lenses to Canon DSLRs for example. Always check compatibility and buy adaptors with electronic contacts to maximise function retention.

Left above
Familiarity matters
A key skill for photographers is knowing how to get the most from your camera – a system change can have a big impact on camera work, due to unfamiliar menus and layouts

Left below
System dependency
The longer you use a camera system and the more you invest in lenses and accessories, the greater the difficulties encountered when deciding to switch manufacturer

Work with a mixed system

Sometimes it is useful to retain equipment from multiple manufacturers, but there are key factors to be aware of

You may decide to keep accessories from one system after you switch to another, such as flash units or bundled RAW conversion software, for a function useful in your common workflow or simply due to familiarity. Try using universal optical flash triggers for wireless flash firing, which can be triggered by any camera flash, and save images in a universal format, such as DNG, for editing shots from multiple camera makes in the same software.

Photographers wanting high quality and portability often operate DSLR and mirrorless cameras together, for the best of both options. Convenience, compatibility and quality must be considered

Left
Use what you need

With new clients come new shooting requirements. Working photographers often find themselves shooting new types of assignment, which may necessitate new equipment from rival systems that their current choice doesn't offer

Below
Specific strengths

While camera brands aim to remain competitive, sometimes a new model is released with the perfect blend of characteristics for a photographer, such as high resolution and low-light capability

© Kevin D. Jordan

Above
Camera traits
Every camera has its own image characteristics, such as colour balance, defined by the sensor and processor. A system switch can make it hard to recreate this familiar look

Left
Comparable specification
If you're swapping systems to access a specific feature, don't forget to invest in a model that possesses the features of your current camera, to cover both present and future needs

Below
Embrace universality
To avoid compatibility issues, adopt universal file formats early to future-proof your images. Native RAW files can be converted to Adobe's DNG in Camera Raw or Lightroom
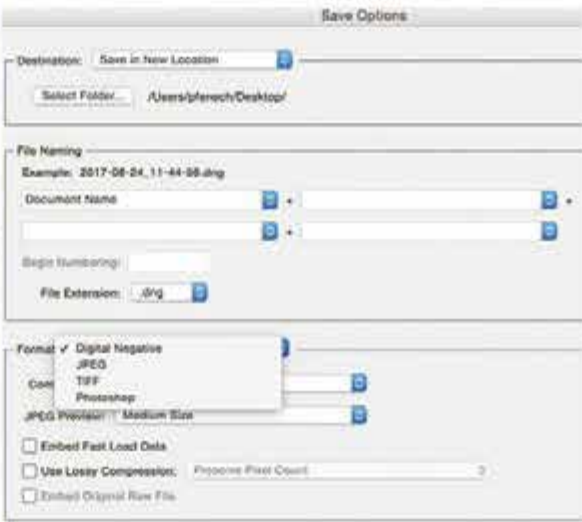
Pro case study

Photographer Kevin D. Jordan (KevinDJordan.com) recounts his experience of changing camera systems

What did you find most challenging about switching systems?

The most noticeable challenges that arose turned out to be the small things that I didn't expect to matter. Being a night photographer, I've learned how to operate my camera in the dark. When I switched systems, buttons were in different locations and menu organisation changed, so it took a while to reset my muscle memory and then adjust to the new configuration.

How did it impact on your photography?

Switching from a Canon EOS 6D to a Nikon D750 had a largely positive effect on my photography. The features of the Nikon better suit my personal requirements, so I can take fewer exposures, which saves me time and hard drive space.

What are the long-term consequences of making such a change?

The long-term consequences I considered were mainly monetary. Cameras and lenses are expensive. When I switched systems, although I felt that I was moving to something that was a better fit for my photography, I acknowledged that I couldn't predict the future – a different system could surpass the quality of mine down the road. While I'm happy with my decision to switch, I thought a lot about the money I was investing long-term before doing so.

What advice would you give anyone thinking of switching systems?

If you are considering switching camera systems, be honest with yourself about why you are switching and educate yourself on how (or if) switching will benefit your photography. As a landscape and night sky photographer, I knew that dynamic range, high ISO performance and ISO invariance were most important to me. However, the move I made may not have been the right one for another photographer. If you can't explain exactly why switching will benefit you, it may not be a necessary move to make.

Facebook.com/KevinDJordanPhoto
Instagram: @KevinDJordanPhoto

Left
Kevin's kitbag
Requiring specific features, Kevin D. Jordan moved from the Canon EOS 6D to a comparable camera in the Nikon range – the D7500. Not all system changes are purely 'upgrades'

Below
Costs and rewards
For Kevin D. Jordan, changing systems had advantages and disadvantages – it brought him perfect features for low-light photography, but made handling an unfamiliar design difficult in the dark

3x © Kevin D. Jordan

Five top tips for switching camera systems

● **Consider purpose** What about the new system will be of benefit to your area of expertise? Are those one or two features enough of a reason to move?

● **Handle the new camera first** Visit a local camera shop while browsing candidates for new cameras, to be sure the layouts won't hinder your workflow.

● **Get some advice** Speak to other photographers working in your genre for their experiences of system changes. Check online forums for specific camera users, to pick out pros and cons of your future system.

● **Test it out** Once you've decided to switch and you're on the destination system, hire potential new models for several days, to test how easily they will fit your way of working over time.

● **Keep an eye on future releases in your current system** You may find a new model pending release that has what you need, negating your reason for changing range.

ACTION ABILITY

When it comes to speed thrillers, does a fast SLR or an SLT give you sportier performance? Let battle commence…

Everybody knows that, money no object, a top-flight SLR like the Canon 1D X II is the best choice for fast-paced action, sports and wildlife photography. But is that really true?

One killer feature you'll need is a rapid continuous shooting rate, so you can nail the definitive moment as an action sequence unfolds. It might be anything from colliding racing cars or a strike on goal, to the wings of a flying bird being at precisely the desired angle. You'll also need a fast and infallible autofocus system, to keep up with the action even during rapid-fire shooting. As we'll see in the following pages, an SLT (Single Lens Translucent) camera with a fixed mirror, like the Sony a99 II, has potential advantages over a conventional SLR in both drive rate and continuous autofocus.

When you feel the need for speed, you generally have to compromise on megapixel count. The 1D X II is typical of SLRs with a very fast drive rate, in that its 20.2MP image sensor has less megapixels than most entry-level cameras. By stark contrast, the a99 II boasts a whopping 42.4MP, despite almost matching the Canon for maximum drive rate.

Naturally, when you're shooting endless bursts of images at a sporting event, massively high-resolution images and giant file sizes can be a pain, but it's nice to have those extra megapixels in reserve. A greater concern is how a bigger megapixel count impacts on high-ISO image quality, when you need to maintain fast shutter speeds for freezing action under dull lighting. Let's see how our two contenders compare.

PRICE: £5,200 / $6,000 (body only)

Canon EOS-1D X Mark II

A veritable slab of a camera, the huge, hefty Canon is an imposing proposition with a price tag to match

Renowned as one of the world's finest fully professional SLRs, the 1D X II is a beast. It has a body weight that's nearly double that of the Sony, and a much bigger build that incorporates a vertical grip for comfortable portrait-orientation shooting, along with meticulously duplicated control dials.

Both cameras are based on magnesium-alloy body shells with a good degree of weather-sealing, but the Canon feels more robust and heavy-duty. All controls are intuitive and quickly accessed, coupled with a logical menu structure.

The 20.2MP image sensor is coupled to dual DIGIC 6+ processors, shunting through the image data from the fast 14fps maximum drive rate. You can boost the drive rate to 16fps by switching to Live View mode, if you can make do without continuous autofocus and metering in sequential shooting. Naturally, the reflex mirror is locked up in Live View mode, making continuous shooting at fast frame rates a lot smoother and quieter.

The Canon's main autofocus system is particularly good at tracking moving subjects, with options for using small and large groups of AF points. There's also an iTR (intelligent Tracking) option that works in tandem with the metering system, to lock onto erratically moving subjects within a scene. On top of that, you get several 'case' options, optimising continuous autofocus for varying scenarios, each of which are customisable for tracking sensitivity, acceleration/deceleration of tracking and AF point auto switching.

Live View mode benefits from Canon's 'Dual Pixel' technology, which uses pairs of adjacent pixels across nearly the whole image sensor for phase-detection AF. It's incredibly accurate and much faster than in most SLRs, although still not quick enough to keep pace with the maximum 16fps drive rate.

Image quality loses out to that of the Sony for sheer resolving power, but draws ahead in dynamic range. High-ISO images are wonderfully clean and noise-free, while retaining excellent fine detail and texture.

Above
A rapid-fire Canon
Utterly dependable, the Canon nails autofocus in simple panning sequences, almost without fail

Above left
Image texture
Detail and texture are pretty well preserved, but the Canon can't match the Sony's resolving power

Above right
Quality
At ISO 6400, images are impressively clean with excellent detail and minimal noise

Below
Fully featured
It's big and heavy but handling is superb, with direct access to a multitude of shooting controls and equally natural shooting in portrait and landscape orientation

Below
Lightweight
64mm shorter and 681g lighter than the Canon, the Sony is much less camera to lug around, but still packs plenty of top-end features

Above left
Noise-free
Scale down the pixel dimensions of ISO 6400 images to match the Canon and they look equally clean

Above right
Resolution
Cropping in to images reveals the Sony's superior resolution, with its mighty megapixel count

Above
The Sony mostly keeps up
The autofocus system is easily able to keep up in straightforward panning in continuous shooting

PRICE: £3,000 / $3,200

Sony Alpha a99 II

Comparatively compact and lightweight, the Sony nevertheless packs a punch and shoehorns in some exotic high-tech trickery

What the Sony gains in being compact, lightweight and easy to manage, it loses in the lack of duplicated controls for portrait-orientation shooting. Add the optional battery grip (£200/$300) and the overall package is about the same size as the Canon body, and the relatively limited battery life of 390 shots is effectively doubled.

Amazingly, the Sony has more than double the Canon's megapixel count, yet almost matches its continuous drive rate, delivering ultra-high-res stills at up to 12fps. However, buffer depth is relatively limited at 63 shots in JPEG mode and 24 in RAW mode (54 compressed RAW).

The camera feels strongly built and well laid out, with useful customisable control buttons and easy access to important settings, although the joystick-like controller on the rear panel feels a little imprecise. The articulated rear screen is a welcome addition for Live View and movie shooting, but it's a shame it's not a touchscreen.

Autofocus is deadly accurate in single-shot mode but slightly less reliable than the Canon's system for tracking moving subjects, even after tweaking settings for AF drive speed and sensitivity. It's also a bit less able to keep tabs on subjects that move erratically.

For high-speed drive rates, the Sony feels a lot smoother in operation than the Canon, thanks to the mirror not flapping around. This also helps to avoid images being blurred by mirror-bounce, which can be a hazard with long telephoto shots. Better still, the Sony features five-axis, sensor-shift image stabilisation, with an effectiveness of around 2.5 stops. That's not as good as the four-stop rating of the current Canon 70-200mm f2.8 telephoto zoom, but there's no stabilisation available at all when using the Canon with its own-brand 24-70mm f2.8 lens.

Image quality is excellent overall, with stunning resolution of fine detail and texture and accurate colour rendition. High-ISO noise suppression is impressive, considering the high megapixel count and that some light is lost through the translucent mirror, but the Sony loses out to the Canon at sensitivities above ISO 6400.

Digital Photographer
EDITOR'S CHOICE

Digital Photographer
INNOVATION AWARD
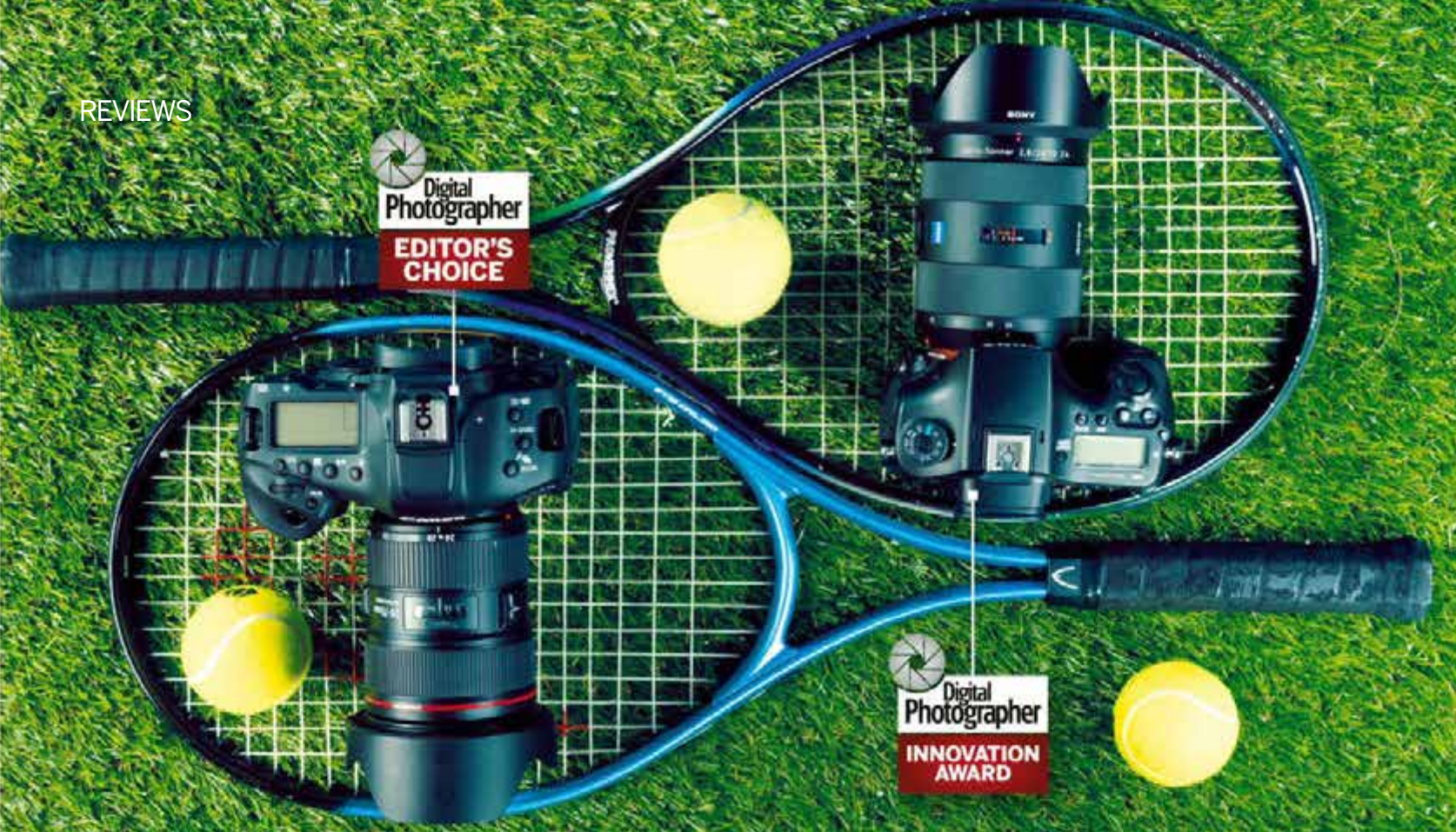
Canon EOS-1D X Mark II

Megapixels (effective)	20.2MP
Max resolution	5,472 x 3,648
Image sensor	35.9 x 23.9mm CMOS
Image processor	Dual DIGIC 6+
Max drive rate	14/16fps
Buffer depth (max speed)	Unlimited, 170 RAW
Image stabilisation	Via lens
Shutter speed	30-1/8,000s, Bulb
ISO (expanded)	ISO 100-51200 (50-409,600)
Shooting modes	PASM, 3x Custom
AF points (sensor)	61 (Dual Pixel)
Metering options	Eval, CW, Partial, Spot
Max video resolution	4K UHD, 60p
Connectivity	USB 3.0, HDMI
Weight	1,530g
Dimensions (WHD)	158 x 168 x 83mm
Battery (life)	Li-ion (1,210 shots)
Storage	1x CF UDMA 7, 1x CFast 2.0
LCD	3.2-inch, 1,620K, Touch
Viewfinder	Pentaprism, 0.76x, 100%

Features
The feature set is suited to action photography, but with the usual hit in megapixel count
★★★★☆

Build quality
It's built to take the knocks that sports and wildlife photographers are likely to dish out
★★★★★

Handling
Handling is superlative and even the weight gives a good balance when using telephoto lenses
★★★★★

Quality of results
It's mighty for nailing action shots, with stunning image quality even at high ISO settings
★★★★★

Value for money
Undeniably expensive, it's nevertheless great value when combined with pro-grade lenses
★★★★★

Overall
For action photography, the 1D X II wins out with spectacular performance and dependability, as long as you're willing to compromise your megapixel count.
★★★★★

Sony Alpha a99 II

Megapixels (effective)	42.4MP
Max resolution	7,952 x 5,304
Image sensor	35.9 x 24mm CMOS
Image processor	BIONZ X
Max drive rate	12fps
Buffer depth (max speed)	63 JPEG, 24-54 RAW
Image stabilisation	5-axis sensor-shift
Shutter speed	30-1/8,000s, Bulb
ISO (expanded)	ISO 100-25,600 (50-102,400)
Shooting modes	Auto, PASM, Sw Pan, 3x Custom
AF points (sensor)	79 (399 points)
Metering options	Multi, CW, Spot, Average, Highlight
Max video resolution	4K UHD, 30p
Connectivity	USB, HDMI, Wi-Fi, NFC, BT
Weight	849g
Dimensions (WHD)	143 x 104 x 76mm
Battery (life)	Li-ion (390 shots)
Storage	2x SD/HC/XC UHS-I
LCD	3.0-inch, 1,229K, Pivot
Viewfinder	Electronic, 0.78x, 100%

Features
Somewhat uniquely, the Sony combines action-friendly features with a big megapixel count
★★★★☆

Build quality
It's solid and well-crafted but doesn't have quite the battleship build quality of the Canon
★★★★☆

Handling
The pivoting LCD is a bonus but the rear multi-selector is a bit fiddly and there's no touchscreen
★★★★☆

Quality of results
Continuous autofocus isn't quite as effective as in the Canon but image quality is sumptuous
★★★★☆

Value for money
The body is keenly priced, but Sony's companion pro-grade lenses tend to be expensive
★★★★☆

Overall
It's a great camera with good handling, and is the best choice if you major in ultra-high-resolution photography but still need fast continuous drive rates.
★★★★☆

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2017
Gold
Trusted
Service
★★★★★
feefo⁵⁵

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Above
Hot-shoe Flash
The output of the hot-shoe-
mounted flashgun can be
controlled via the camera menu

Opposite
Vari-angle screen
The screen is useful for composing
in either landscape or portrait
format in Live View mode

Price: £2,000 / $2,000 body only

Canon EOS 6D Mark II

Canon's latest full-frame DSLR makes a significant upgrade on the original 6D, but can it compete in today's market?

Almost five years after the original 6D was unveiled, Canon announced its replacement, the 6D Mark II. This new camera makes a significant upgrade on the original model with the pixel count jumping by 6 million to 26.2 million. What's more, the full-frame sensor is a Dual Pixel CMOS AF device, which means it has phase-detection pixel embedded in it for use in video and Live View mode.

The sensor is paired with Canon's latest processing engine, Digic 7, and together they enable a standard native sensitivity range of ISO 100-40,000 (with expansion settings taking it to ISO 50-102,400) and a maximum continuous shooting rate of 6.5fps for up to 21 RAW files or 150 JPEGs. Even at the time of its announcement, the original 6D's AF system seemed a bit behind the curve and that has

been upgraded to 45 AF points all cross-type system for the Mark II.

Canon hasn't really pushed the boundaries on the video front, but the 6D Mark II is capable of recording Full HD footage at up to 60fps and it's the first Canon camera to have a 4K time-lapse movie option. It's also the first full-frame EOS model to have five-axis stabilisation available for movies.

While the Mark II is relatively lightweight and compact, it feels pretty solid and has a good, deep grip that you really appreciate when a long, heavy lens like a 70-200mm f2.8L or 100-400mm is mounted.

Canon has been swift to embrace touch-control but the 6D Mark II is the first full-frame DSLR from the manufacturer to have a vari-angle touchscreen. The touch-control implementation is excellent, allowing you to navigate menus and make selections as well as set AF point in Live View mode and zoom in and out or swipe through images. There's also a healthy selection of buttons and dials on the camera body, but having the touch-control makes using the camera just that bit easier.

One feature that photographers with higher-level Canon SLRs will miss, however, is the mini-joystick control on the back of the camera – instead, you have to use the navigation pad to shift the AF point.

> "The 6D Mark II's AF system is very good and is able to get fast moving subjects sharp"

FEATURES

MIC PORT
There's no headphone connection but a 3.5mm mic port is available for connecting an external microphone for better video audio.

GPS BUILT-IN
A GPS chip allows images to be tagged with location data as you shoot and to save battery life it can be set to turn off with the camera.

WEATHERPROOF
Although it's aimed at enthusiast photographers, the 6D Mark II's aluminium alloy and polycarbonate shell has weather and dust seals.

SMARTPHONE CONNECTION
Wi-Fi and Bluetooth connectivity facilitate image transfer, with the Bluetooth making it easy to reconnect to the camera and awaken it from sleep.

AF POINT CLUSTER
While there are 45 AF points it's worth noting that they are clustered around the centre of the image frame. In Live View you can focus near edges.

CUSTOM MODES
There are two customisable options on the Mode dial that can be used to access your favourite shooting mode and menu functions quickly.

MIC PORT

With a 26.2MP sensor the Canon 6D Mark II isn't going to break any records for detail resolution, but at the lower sensitivity values it captures enough to produce impressive A3 or larger prints and noise is controlled well for much of the sensitivity range.

Unless you really, really need to capture an image, it's worth keeping the sensitivity to ISO 32,000 or lower as this ensures more natural-looking JPEGs and less noisy RAW files. Images shot at ISO 6,400 look good and although there's a little noise visible when images are scrutinised at 100%, the results look great at normal viewing sizes.

As usual with Canon DSLRs, the Standard Picture Style usually produces attractive images with vibrant colours. Of the two Automatic White Balance settings, the Ambience Priority option generally produces the more attractive results in a range of conditions, but the White Priority comes in handy, especially in artificial light. In shade, however, the Daylight setting is usually the best choice as it makes images a bit warmer and more attractive.

When the viewfinder is used to compose images exposure metering is informed by a 7560-pixel RGB+IR sensor. Interestingly, in its Evaluative mode this system handles bright scenes very well, but it struggles a bit more with dark backgrounds and you need to keep an eye on the highlights.

Experimenting with exposure reveals that the 6D Mark II's dynamic range is a little limited and it's best to avoid the need to brighten shadows or dark images by more than 2EV post-capture. Ideally, you'd expose to the right to have as much detail as possible in the shadows without burning the highlights.

TALKING POINT...
Autofocus system

All 45 of the 6D Mark II's AF function as cross-type when a lens with a maximum aperture of f5.6 is mounted. Of these, 27 operate when there's a maximum aperture of f8 or larger. A total of nine of these points are cross-type at f8. The centre point functions as a dual cross-type at f2.8. In addition, the system is sensitive down to -3EV, making the Mark II far better at finding subjects than the original 6D.

As with Canon's pro-level cameras, it's possible to customise how the continuous AF system works with control over parameters such as Tracking sensitivity, Acceleration/deceleration tracking and AF point auto switching enabling you to adjust how the camera responds.

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Better news is that the 6D Mark II's main AF system is very good and is able to get fast moving subjects sharp and keep them that way as they move around the frame provided that they are covered by the active points. Canon's low-light claims for the system also ring true and the cross-type points appear to help in low contrast.

As is often the case, if you can keep a single focus point over the subject the AF system delivers the highest hit rate. Expanding the area to Zone AF gives you a little more latitude with targeting while still keeping the camera on-track. Using Large Zone AF or Automatic Selection AF reduces the hit rate with fast-moving subjects but if they are moving erratically they may be the best options.

100%

Inset
Under control
Noise is generally handled well but we'd advise keeping to ISO 32,000 or lower if you can to preserve detail

Right
Sunny Warmth
The Daylight white balance setting makes a good choice in most natural lighting conditions, delivering pleasantly warm images

Canon EOS 6D Mark II

Megapixels
26.2
Max resolution
6240 x 4160
Sensor information
Full-frame Dual Pixel AF CMOS
Shutter speed
1/4000-30sec plus Bulb
ISO sensitivity
Stills: 100-40,000
expandable to 50-102,400
Movie: 100 - 25600
Exposure modes
PASM plus Scene, HDR, Bulb, Custom, Scene Intelligent Auto
Metering options
Evaluative, Partial, Centre-weighted, Spot
Flash modes
External only
Connectivity
USB, HDMI Type C, Mic, Remote control, Wireless Remote, Wi-Fi, Bluetooth
Weight
765g (body with battery and memory card)
Dimensions
144.0 x 110.5 x 74.8mm
Batteries
Rechargeable Lithium ion (LP-E6N supplied)
Storage
SD/SDHC/SDXC UHS-I
LCD
Vari-angle, touch-sensitive 3-inch Clear View LCD II with 1,040,000 dots
Viewfinder
Optical with 98% coverage

FEATURES
While it might not meet all a pro's requirements, there's plenty to keep most enthusiasts happy
★★★★☆

BUILD QUALITY
The grip makes it comfortable to hold even with long lenses while seals keep out dust and moisture
★★★★★

HANDLING
The combination of physical controls and the touch screen make controlling camera simple
★★★★☆

QUALITY OF RESULTS
While the dynamic range disappoints, images usually look good straight of the camera
★★★★★

VALUE FOR MONEY
The specifications and handling make this an attractive alternative to the 5D Mark IV
★★★★☆

Overall
The Mark II seems a far more rounded camera than the original 6D, offering Canon users a capable, more affordable route into full-frame photography than the 5D Mark IV
★★★★★

1 **98% COVERAGE**
Sub-100% viewfinder coverage means you may miss elements at image edges

3 **Q BUTTON**
Pressing this button when the main menu is open jumps through the main tabs

2 **AF POINT SELECTION**
A Custom Control option lets you use the navigation pad to set the AF point directly

4 **LOCK**
Beware of this lock activating while you carry the camera on shoulder strap

Price: £865 / $900 (with 18-55mm kit lens)

Canon EOS 800D (Rebel T7i)

Built for beginners but loaded with pro features, does this EOS DSLR offer value for money for the serious amateur?

Starting all the way back with the EOS 300D in 2003, the Canon EOS range of entry-level interchangeable-lens cameras have always incorporated enticingly advanced features, many of which have trickled down from higher-end professional and semi-professional models. The EOS 800D (EOS Rebel T7i) has a slightly more complex relationship with its stablemates than past iterations, entering the Canon line-up alongside the EOS 750D and EOS 760D. All three feature 24.2MP APS-C CMOS sensors and also share Wi-Fi and NFC connectivity, along with Full HD recording.

While outwardly the 800D appears similar to its predecessors, there have been significant internal upgrades. The sensor itself is new-generation, having more in common with that found in the EOS 80D than the other entry-level bodies. When combined in operation with the new Digic 7 processor, image quality has taken a step up from the 750/760D. The new engine has enabled Canon to extend the ISO sensitivity of the 800D to ISO 51,200, up from ISO 25,600 on the 750D.

The camera handles image noise very well throughout the sensitivity range. Even at the highest setting, in-camera JPEGs retain impressive levels of detail, with chrominance noise all but absent and luminance 'grain' only problematic in the deepest shadows. There is some loss of colour saturation in images taken at these settings, but this can be remedied through in-camera JPEG customisation or in post-processing.

Colour reproduction is natural and punchy in out-of-camera JPEGs and there are a plethora of tint and tone customisation options. Probably the most obvious updates centre around the 800D's autofocus system – a significant advancement on the 750D's 19-point AF array. The new system features 45 AF points, all of which are cross-type, with 27 operational down to a maximum aperture of f8 (at which nine remain cross-type). The camera is quick to find focus in low and high-contrast lighting, demonstrating the upgraded -3EV low-light AF capability. The AI Servo continuous focus mode is a great introduction to action photography for beginners, although sometimes there was a noticeable pause when re-focusing between near and far subjects.

In terms of handling, the 800D is very comfortable to hold – the deep hand grip is contoured and gives the feeling of being able to hand-hold the camera securely on the move. The size and placement of the main mode dial allows almost full control of the camera when working one-handed, and all buttons are logically placed and easy to reach. The inclusion of touch sensitivity on the articulated LCD adds to its versatility and gives a true interactive feel to the selection of camera settings and navigation of menus.

The Canon EOS 800D would make a fantastic first DSLR – the helpful Guided UI, simple operation and extensive feature set make for a fully rounded package, equally capable of finding a place as a quality back-up camera for a working professional.

FEATURES

KIT LENS
The EOS 800D is bundled with Canon's updated 18-55mm optic. The STM drive provides speedy autofocus, with internal focusing.

WI-FI BUTTON
For rapid access to the wireless functionality, the body features a one-touch button that takes the user to the appropriate menu.

AMBIENCE PRIORITY WB
This allows control over colour to be given to the camera, but with the ability to preserve ambient warmth.

ARTICULATED LCD
To help with low-level shooting and awkward compositions, the EOS 800D features an adjustable screen. A very welcome inclusion.

TOUCHSCREEN
The camera's responsive touchscreen provides instant access to camera settings and allows rapid image scrolling and zoom.

GUIDED USER INTERFACE
Active by default, this instructional UI gives new photographers a working reference to essential settings.

WI-FI BUTTON

Right
Versatility
The close focusing distance of the kit lens combines with the high resolution sensor to produce detailed images

Far right
High-contrast
The metering system copes well with high contrast scenes, although highlight detail can sometimes be lost

Digital Photographer

EDITOR'S CHOICE

"Probably the most obvious updates centre around the 800D's autofocus system – a significant advancement on the 750D's 19-point AF array"

Below
Stills/Video switch
This control provides instant access to High Definition video shooting

Right
Intuitive layout
The body design makes button access and settings control simple

Canon EOS 800D (Rebel T7i)

Megapixels 24.2MP	**FEATURES** As expected, the 800D sets the bar high for entry level cameras. Plenty to inspire beginners ★★★★★
Max resolution 6,000 x 4,000	
Sensor information 22.3 x 14.9mm CMOS	
Shutter speed 30 - 1/4,000sec, Bulb	**BUILD QUALITY** While not as well built as Canon's mid range DSLRs, the 800D feels sturdy for its category ★★★★☆
ISO sensitivity 100 - 25,600 (expandable to 51,200), A	**HANDLING** With its deep grip and accessible controls, the camera handles more like a semi pro model ★★★★★
Exposure modes Auto, P, A, S, M, CA	
Metering options CW, PM, S, EM	**QUALITY OF RESULTS** Noise is expertly handled at high ISOs, while colour and detail are also excellent ★★★★★
Flash modes TTL Auto, Manual, Commander, Off	
Connectivity USB 2.0, Wi-Fi	
Weight 532g (including battery)	**VALUE FOR MONEY** A little pricey for the entry level market, but it has a lot to offer the keen photographer ★★★★☆
Dimensions 131 x 100 x 76 mm	
Batteries Rechargeable Li-ion	
Storage SD, SDHC, SDXC	
LCD 3in, 1,040,000 dots	
Viewfinder Pentamirror, 0.82x magnification, 95% coverage	

Overall

The EOS 800D lives up to the reputation created by its predecessors, offering a combination of style, features and portability that will be enticing for enthusiasts.

★★★★★

SRP: £1,050 / $1,100

Panasonic Leica DG Vario-Elmarit 8-18mm f2.8-4 ASPH

We put Panasonic's premium micro four thirds wide-angle zoom through its paces to see how it stands up

With their two body styles, Panasonic's micro four thirds cameras are clearly designed to appeal to different users – but here's a lens that's made in conjunction with Leica, which is more likely to appeal to the DSLR user than a traditional rangefinder user. Still, zooms don't feature in coupled rangefinder photography, so it's a moot point. Although relatively large as a G-series lens, it's far smaller than a 35mm DSLR equivalent and is just as much at home on the Lumix GX8 as it would be on a GH5. Not surprisingly, Panasonic's premium Leica-branded lenses have a lot of design cues from the likes of the M-series, and the collaboration certainly nudges up the price, but it does hint at the kind of quality to expect.

This lens has a mainly metal exterior, nicely milled focus and zoom rings and a beautifully designed hood. Autofocus is another highlight. It's fast for stills, and video users will appreciate the smooth, near-silent operation. Overall it's a good match for the excellent AF capabilities of the GX8 we had for testing. As for the optical quality, it has strong barrel distortion at its widest, but as this is corrected on the fly in the camera and with most RAW converters, it's not really noticeable. Like a lot of zooms it's sharpest at the wide and mid-focal lengths. But, with little fringing and good resistance to flare and ghosting, who can argue that this kind of versatility isn't warranted for people who like 'rangefinders'?

Left above
Definition
This lens is sharpest at the shorter end of the zoom range, but even at 18mm it performs well

Left below
Distortion
Panasonic corrects images on the fly in the viewfinder and RAW files contain a profile for automatic correction of barrel distortion

Technical specs

Manufacturer	Panasonic
Model	Leica DG Vario-Elmarit 8-18mm f2.8-4 ASPH
Web	www.panasonic.co.uk
Elements/construction	15 / 10
Angle of view	96.7-53.1 degrees (horizontal)
Max aperture	f2.8-4
Min aperture	f22
Min focus distance	0.23m
Mount	Micro Four Thirds
Filter size	67mm
Length	88mm
Diameter	73.4mm
Weight	315g plus hood

Overall ★★★★☆

It's arguably a little big on Panasonic's rangefinder-like cameras, but no zoom can match the performance of a prime. Plus, the quality of the results does mean that you are getting what you're paying for.

SRP: £1,420 / $1,250

Nikon AF-S Nikkor Fisheye 8-15mm f3.5-4.5E ED

Nikon extends the scope of its FX and DX systems with this new fisheye zoom. Kevin Carter checks it out

Back in the Seventies and early Eighties, Nikon offered a range of esoteric circular and full-frame fisheye lenses, but even with all that experience, this zoom lens is the first of its type from the company. While this is much more affordable at today's prices than those models, this zoom lens, which combines the attributes of both circular and full-frame fisheye in one, is rather more practical. With a length of 83mm, this lens is tiny and barely noticeable on a camera like the D810. With a small barrel and a zoom ring, there isn't much room left for the focusing ring. As a result it is rather thin and, combined with high-gearing, it's a little difficult to focus accurately in the viewfinder. Still, autofocus can be relied upon when using the lens handheld and the lens focuses quickly, quietly and efficiently.

Like any fisheye lens, the extreme viewing angle means you'll not be able to use filters on the front, and with such startling barrel distortion you really need to frame your compositions carefully. At 8mm images are circular and while there's some slight light falloff and a little lateral chromatic aberration, images are very sharp across the whole image field. At 14mm and 15mm there's no mechanical vignetting, however there's more pronounced fringing and it's not so sharp at the periphery. All the same, both those shortcomings can be easily overcome in software, making this a lot more versatile than you might expect, especially when paired with a high-resolution body.

Left above
Definition
This lens is very sharp centrally but it is noticeably softer at the edges. Even so, images can rescued easily enough

Left below
Distortion
Barrel distortion is inevitable with a fisheye but, with some care, the exaggerated perspective can produce dramatic images

Technical specs

Manufacturer	Nikon
Model	AF-S Nikkor Fisheye 8-15mm f3.5-4.5E ED
Web	www.nikon.co.uk
Elements/construction	15 / 13
Angle of view	180-175 degrees (horizontal)
Max aperture	f3.5-4.5
Min aperture	f29
Min focus distance	0.16m
Mount	Nikon F (E)
Filter size	Rear only, gelatin holder
Length	83mm
Diameter	78mm
Weight	485g

Overall ★★★★☆

Optically this lens isn't perfect, but it is very good. With a little software correction, the fisheye's frame-filling performance makes it versatile enough for practical everyday use.

LIFE...WHERE'S THE PAUSE BUTTON?

With so many demands from work, home and family, there never seem to be enough hours in the day for you. Why not press pause once in a while, curl up with your favourite magazine and put a little oasis of 'you' in your day.

(f) (y)

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Price: £265 / $459

Billingham Hadley One

Does this camera bag offer enough features to justify its high price tag?

Billingham has an enviable reputation in the camera bag industry. With over four decades of experience under its belt, the British manufacturer has built a loyal fanbase of enthusiast and professional-level photographers, who choose Billingham products for their unique, retro design, solid construction and simple functionality. The Hadley range of camera bags covers a variety of size requirements, from the ultra-compact Hadley Digital up to the Hadley Large Pro, for greater capacity. The Hadley One fits neatly into the range, between the Hadley Pro and Hadley Large variants, measuring 370mm width x 140mm depth x 280mm height along the external dimensions. This size offers a great balance between capacity and easy handling – the Hadley sits comfortably at the hip when using the adjustable main strap over the shoulder and is not cumbersome when on the move. The strap itself is pleasingly wide, so as not to feel as if it is cutting into the

shoulder when used for extended periods. As for construction, the Hadley One is impeccably manufactured, crafted from Billingham's FibreNyte material, which has a coarse and durable finish. All seams appear to be expertly stitched, which gives the bag the impression of being very 'safe', permitting the confidence to head out in all weather conditions and know the equipment within is fully protected from the elements. Furthermore, the use of metal bolts, poppers and buckles, with heavyweight leather strap loops and attachments, should ensure the longevity of the bag structure. These elements also contribute to the classic Hadley design and maintain a brand-continuous colour scheme that will appeal to users of other Billingham products. In use, the Hadley One provides easy access to cameras and lenses, for which there is ample space – there is capacity to comfortably fit a mid-range DSLR with lens mounted and two further optics, up to around a 70-200mm

f2.8. The biggest issue is the buckle-and-strap latch system, which is not as rapid to operate as many other 'street' bags on the market, and may inhibit photographers requiring fast access for spontaneous shooting. Overall, the Hadley One is a voluminous camera bag which, despite the high retail price, should provide value for many years of demanding use.

Summary

Ease of use	★★★★☆
Value for money	★★★★☆
Features	★★★★☆
Quality of results	★★★★★

Overall ★★★★☆

A wonderfully constructed bag, offering style and protection for your gear. The price may be prohibitive for some, but it's certainly worth it for the product's longevity

Photography portfolio websites

Want your images to stand out from the crowd online? We review four popular options

Squarespace *(www.squarespace.com)*

Price: £15/$12 (Personal) to £25/$18 (Business) per month billed annually

Squarespace isn't the cheapest, but templates are sleek, and the responsive design crops images automatically for different devices. Images can be presented via full-screen slideshows and a lightbox mode. Social integration also goes beyond the usual suspects, even extending to Smugmug and 500px.

Overall ★★★★☆

SmugMug *(www.smugmug.com)*

Price: $3.99 to $25 per month (billed annually)

SmugMug provides unlimited storage even on the basic plan. It's a good option for selling photos, as the site enables you to fulfil print orders directly with photo labs. Sharing tools are also strong, but some users will miss having a blog function.

Overall ★★★★☆

Format *(www.format.com)*

Price: From $6 (100 images) to $44 (unlimited storage) per month

Format is an easy-to-use, affordable and smart option. You can update your portfolio directly from Lightroom and manage gallery pages on the go via the free Format Galleries iPhone app. There's also a built-in client proofing tool, enabling clients to review and favourite images from any device.

Overall ★★★★★

Wix *(www.wix.com)*

Price: From free (with Wix branding) to £15.57/$25 (VIP premium plan) per month

Wix is simple and cost-effective, with built-in apps for features such as email marketing. It isn't solely at creatives, and this shows. Although there are many photography-specific templates on offer, the interface can feel clunky. You can't switch between templates without re-inserting your content.

Overall ★★★☆☆

Add a vignette
Create some punch and make your portrait really pop with this stunning new feature

Inset top
Cut out the background
Edit and cut out your background for the first time ever in Portrait Pro. There's still room for improvement with this feature

Inset below
Add bronzer
Use the improved bronzer slider to enhance and sculpt your portraits

PortraitPro 17

Enhance and retouch portraits in seconds with this intelligent piece of software

SRP: £99/$131 **OS:** OS X 10.7 or later, Windows 10, Windows 8, Windows 7, Vista, or XP

A portrait photographer's dream! This is the perfect tool for the novice retoucher and also for professionals that want a super-quick, no-hassle edit.

For the first time ever, Portrait Pro 17 lets you completely edit the background in your images without having to leave the program. You can pick from four different types of background that include the original image, a new image, flat colour and a gradient. In our testing, the Selection tool for cutting the subject out wasn't as accurate as we'd have liked, meaning that our cut-out images looked a bit rough.

The new Snapshot feature lets you save versions of your image as you work through the edits and allows you to go back and pick a previous version. This feature is great because it gives you the power to experiment with more dramatic edits while still in the

knowledge that you can go back and choose one of your previous snapshots.

We really love the intuitive make-up and face-sculpting sliders that enable you to make subtle changes to your shots or go all out and completely transform your portraits into glamorous captures. We particularly liked the new Bronzer feature that lets you add dimension and depth to your subject's face.

Also new for PortraitPro 17 is the vignette feature that allows you to add more punch to your shots. We particularly liked the darker vignettes that made our subject really pop. Not only that, but you can utilise the preset options in the program – create custom presets using your favourite tools, which means you'll be able to edit images in just a couple of clicks. You can even build your own make-up looks or save your favourite skin smoothing settings.

This kind of retouching is not for everyone, but the software is simple to use. If you find yourself shooting a lot of portraits, but you don't feel you have the skills to execute a professional retouch then this tool is for you. Even used subtly, it's effective and intuitive.

Summary

Ease of use	★★★★☆
Value for money	★★★★☆
Features	★★★★★
Quality of results	★★★★☆

Overall ★★★★☆

Take your portraits to the next level with this intuitive and super-intelligent program – there's something for both enthusiasts and pros here

Photoshop Elements 2018

Will the 2018 updates appeal to both amateur and experienced photographers?

SRP: £86.95/$115 **OS:** Windows 7 or later, macOS X v10.11 or later

Photoshop Elements 2018 provides a simple and accessible image-editing solution for every level of photographer. This latest iteration of the software has a range of updated and brand-new features, as well as a sparklingly new naming convention. The previous iteration was Elements 15 and now we have the slightly more grown-up Elements 2018.

Elements provides photographers with effortless organisational tools within the Organiser app, and this new version has a really helpful Auto Curate feature that finds the best photos in your collection. Also included in the organisational tools is a one-click dynamic slideshow creator that will make a slideshow of your curated photos and videos.

Another impressive new feature that opens closed eyes in pictures will be ideal for wedding, events and family photographers that are often faced with unpredictable subjects. It's very intuitive and you'll barely be able to tell that the eyes in you images have been edited.

One of the most helpful aspects of Elements is the step-by-step Guided Edit feature. The software prompts you and takes you through certain edits, from essential tweaks to more creative and advanced alterations. The new guided edits include how to cut out subjects and replace backgrounds, overlay effects, create a stunning watercolour-type shot and double exposure. Replacing backgrounds has been made even easier with the new Automatic Selection feature, which aims to create a perfect selection for you, extracting a subject from a background by simply clicking and dragging.

This software is certainly suited to even the least experienced of photographers, while featuring some welcomed elements that will suit more advanced shooters too.

Summary

Ease of use	★★★★★
Value for money	★★★★☆
Features	★★★★☆
Quality of results	★★★★☆

Overall ★★★★☆

Perfect your family snapshots and create slideshows with absolute ease

Inset top
Double exposure
Create a simple double exposure in just a few easy steps. Merge two of your own images, or use a preset image

Inset below
One-click slideshow
Create a slideshow with just one click using the software's auto curate function

Main
Guided
Improve your skills with the intelligent guided edits. This iteration has added four new guided edits

App Focus

HD Camera Photo Collage Maker
Price: Free
OS: iOS 6 or later

This is a super-fun app that will let you do cool edits in just one click! Create quirky pictures in a jar or raindrop and add text too – perfect for stand out one-click edits for sharing on social media. There isn't a lot of functionality in the app on the whole, but it is fun nonetheless.
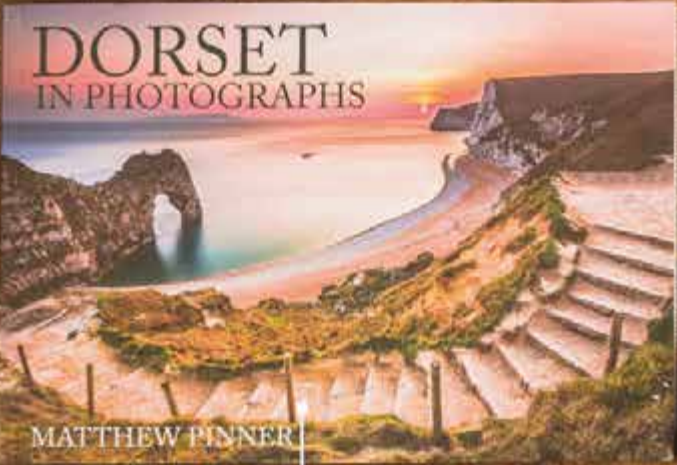
★★★★★

1

2

DORSET
IN PHOTOGRAPHS

MATTHEW PINNER

3

4

Accessories

A collection of the best fun-yet-functional products out there for photographers

1 ■ **Lastolite by Manfrotto Trigrip Reflector 120cm silver/white**

Website: manfrotto.co.uk
Price: £96 / $95

Fill the shadows in your imagery with this decent-sized reflector. It's collapsible to a third of its size and reversible, so will fit to a variety of your needs. It comes with a carry bag so that you can take it on location and its intuitive shape and ergonomic handle means that you can hold it with just one hand. This means that if you don't have an assistant to hand, you should be able to hold your camera and the reflector at the same time. The light it adds in to your scenes is beautifully bright.

★★★★★

2 ■ **Lykos Bi-Color LED light**

Website: manfrotto.co.uk
Price: £401 / $500

LED lighting is a flexible alternative to using flash, and can sometimes be far easier to use as you can see how the light falls before you take the shot. Priced at £400 this isn't a cheap lighting option, but the results you'll get will certainly impress. It's a bright and portable daylight-level light, and you can easily alter the strength and colour temperature with the dimmer dial. You do need to be quite committed to your lighting needs to fork out the money for this offering, but the results truly speak for themselves – stunning.

★★★★★

3 ■ **Dorset in Photographs by Matthew Pinner**

Website: www.amberley-books.com
Price: £17 / $23 (approx)

This is a really stunningly striking collection of photographs from a truly beautiful part of the country. Matthew Pinner is a landscape photographer local to the south coast of England and has collated a lovely collection of images that will make you keep coming back for more. The book is nicely petite and will look great on any coffee table. Take in the sweeping beaches, water-battered cliffs, chalk hills, large vales and grassy floodplains that Pinners has skilfully captured. The print and paper quality is impressive.

★★★★★

4 ■ **Manfrotto Street CSC Pouch**

Website: manfrotto.co.uk
Price: £20 / $30

Stylishly carry your CSC in this attractive pouch from Manfrotto. The foldable, drawstring pouch offers protection for the likes of the Fujifilm X-T series and Sony a7 cameras. The little bag will fit easily into most everyday bags making it incredibly easy to transport your kit. This means that you'll be able to take your camera out more often, and is also perfect for casual street photographers. In addition it features some clever removable dividers that enable you to arrange your kit to suit your needs.

★★★★★

5 ■ **Canon backpack BP10**

Website: store.canon.co.uk
Price: £95 / $130

This camera bag is designed to carry both your camera equipment and personal items. We really love how it looks, as it has been purposefully designed to prevent it being recognised as a camera bag by potential thieves, but also remains very stylish with a lot of casual bags on the market adopting a similar look. The material feels really high quality, and will make sure your equipment goes unharmed during your travels. With easy access to your camera you will never miss a photographic opportunity.

★★★★★

CHALLENGES AND REWARDS

Tom Barnes talks winning awards with the Paralympic team for Rio 2016

All images © Tom Barnes

In early 2016 I was commissioned to shoot the campaign for the British Paralympic Association for their groundbreaking Supercharge campaign. The shoot was going to be a week long, but when you are dealing with calendars of some of the world's best athletes the amount of [potential] dates suddenly become reduced. In the end we had to shoot eight athletes over two days in two separate locations, which meant long days and moving fast!

After multiple meetings and discussing the brief we came to the decision to do one southern shoot in Guildford and one further north in Loughborough. We needed to shoot this early in the year and knew the weather would be a primary concern – on shoots like this I am constantly checking my weather app (Dark Sky) to check the rain and wind forecast.

I was after dark and brooding imagery and wanted to bring out bigger flashes, but due to the time restraints and needing to move

quickly I opted for the Profoto B1 units and lit all the setups with either one or two lights.

We had a huge amount to shoot and in July or August it would have been easier, but in January we were battling fading light as the days were at their shortest. The long hours needed and short daylight available wasn't the only problem – the weather didn't play ball, so we were dodging around rain and sleet whilst shooting.

The kit required had to be relatively lightweight – I ended up using a couple of the Profoto B1s as they enable me to move really quickly. We also had all the kit loaded on to my Magliner and used it as a lighting stand as well to reduce setup time. Using the Magliner as a light stand base was a great idea, as it also meant we had to carry

PRO BIO

Tom is an award-winning London-based advertising photographer shooting worldwide for a huge variety of brands, agencies and magazines. A crazy career has seen him shoot murderers to politicians, in palaces to refugee camps and war zones.
www.tombarnes.co

less sandbags to cut the weight back, which reduced our kit level even more! Two days and about 40 batteries later the shoot was wrapped and we could head back home and out of the cold – huge shoutout to my assistant Emma who didn't complain once about the arctic conditions.

After we had chosen the images and I'd retouched them it was time to launch the campaign. It was incredibly well received which was a relief, and the funds raised were above all expectations. For the first time ever I decided to enter into some competitions with the work and to my surprise it won Gold in Graphis and Best in Category at the AOP Awards among others! I'll look back at this shoot as one of my favourites of my career.

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